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ABSTRACT

This publication is composed of two separate entities: a relatively brief manuscript entitled "Development of a Model for Planning an Educational Facility" and a much more lengthy Midi-Practicum Report that describes the implementation of the plans outlined in the first manuscript. Each of the three authors wrote one section of the first manuscript and then implemented that plan in his school district. All authors then participated in writing the final Midi-Practicum Report, based on the experience of their development and implementation efforts. The object of the practicum was to develop a comprehensive plan for the planning and construction of educational facilities. Each chapter of the Midi-Practicum Report focuses on a different aspect of the facility planning process, including such steps as developing educational specifications for a facility, retaining an architect, selecting a site, planning and administering a bond issue, and awarding construction contracts. (JG)

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PRACTICUM REPORT

"DEVELOPMENT OF A MODEL FOR PLANNING AN EDUCATIONAL FACILITY"

by Boughner, Wesley
Fischer, Clyde
Randall, Lee.

Submitted in partial fulfillment of the requirements of the degree of Doctor of Education, Nova University

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Michigan Cluster
Mr. Gene Megiveron, Coordinator

Group Midi-Practicum
January 8, 1975

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I. ABSTRACT

The practicum has been designed and prepared to provide the necessary steps in the development of and planning for an educational facility.

The process for implementing the program has been developed in a sequential form to afford the reader the opportunity to proceed logically in those areas of the reader's need.

The final written manuscript was a successful attempt to construct a comprehensive plan for the development of an educational facility. The weakness in design was noted by the writers and are so indicated in chapters 6 and 8 of the midi-practicum report.

II. OVERVIEW OF THE PRACTICUM

The Midi-Group Practicum is composed of two separate entities: 1) The combined-effort manuscript, entitled "Development of a Model for Planning an Educational Facility," and 2) the Midi-Practicum Report of the implementation of each of the major chapters contained in the manuscript. Each participant implemented the area of the manuscript for which he was responsible, developing and writing for that manuscript.

The body of this Practicum Report reflects each practicum participant's implementation of his responsibility to the total practicum. For example, Chapter V of the Midi-Practicum Report is the actual project report of Mr. Fischer's implementation of Chapters I, II, III, IV, and V, dealing with how to organize for a bonding program, population projections, administering the actual bond issue, public communications, and bond issue public surveys.

Each of the three practicum participants, having designed an outlined plan to begin implementing, then actually began to implement that plan in his school district. Some of us kept logs of what took place during the implementation; others actually wrote their report after each phase of their implementation was completed. Each person completed his manuscript for the master manuscript. All of us then assisted in the final writing of the Midi-Group Practicum Report.

III. IDENTIFYING THE PROBLEM

Each of the participants in the practicum had specific professional responsibilities dealing with some phase, or all, of the development of plans for the construction of a new educational facility in his school district. Clyde Fischer, a local superintendent, was charged by his Board of Education with the responsibility for developing and implementing a strategy for successfully passing a bond issue to construct a needed new high school facility. A different school district, in which Lee Randall was a principal, was investigating the need to build a new high school facility. Wes Boughner, Curriculum Coordinator in yet another district, was developing the curriculum for a new elementary building. Originally we had two additional participants who were also involved in some phase of planning and constructing an educational facility in their respective school districts, however, they have dropped from the Nova program.

All of these Nova participants had a specific professional responsibility--an assignment that dealt with the common problem of planning and constructing an educational facility. Although all the participants were not involved with the total planning and construction process in their respective districts, we were able to collectively identify individual areas of responsibility for purposes of writing and implementing the Midi-Practicum.

We felt there was no comprehensive model available to provide guidance for the over-all plan of building an educational facility. We felt that most administrators usually have knowledge in one or more areas of the planning for a new educational facility. Seldom, however, do they have expertise in each of the areas necessary to implement the entire process. As each of the participants possessed past experience in at least one of the areas of the total plan, we felt we could solve the problem by developing a plan that might make it easier for other administrators to be able to perceive a comprehensive, sequential building program.

IV. CONCEPTUALIZING A SOLUTION AND DEVELOPING A PRACTICUM DESIGN

Having identified the common problem to each of us, a group of Michigan Cluster participants, met to see how many persons would be interested in actually participating in a group midi-practicum. Five persons indicated an interest in working on the group practicum. We discussed the objective of the practicum and how we should approach developing a practicum design.

It was suggested that we might continue from the results of the Midi to a group Maxi I project dealing with the building of educational specifications, curriculum and design for an educational facility for the year 2025. We rejected this concept after reviewing the video tape on the Maxi-Practicum at the 1974 Summer Institute. Our idea and theme was not within the guidelines of what a Maxi I Practicum should be.

We felt that the best approach by which we could solve the original problem was to develop an audio-visual presentation depicting the sequence of events and making relevant suggestions to the viewer. A booklet was to be designed and coordinated with the tape, presenting the same information. Each of us would identify an area of responsibility, such as "developing the curriculum," or "hiring an architect." We would develop a master plan for the script and information to be presented. Each of us would develop a photographic record of the actual implementation for our area of responsibility in the master plan.

There is no audio visual presentation available for use by administrators. We felt our presentation would be a beneficial aid that administrators could follow as a guide or could use to show their Boards of Education what the proper method and sequence of planning for the construction of a new facility would entail.

This could be used as a point of departure when we began to develop our practicum design for our group Maxi I project. The meeting was successful, and we set a date for our next meeting.

At our next meeting, we wrote the Midi-Practicum proposal and submitted it to our practicum reviewer. In his response to our proposal, he had many concerns about the actual implementation of our original concept, although he did suggest that we proceed with our planning for the practicum.

We again met, following our cluster meeting, to discuss the reviewer's evaluation of our proposal, his concerns, and recommendations. As some practicum participants live over 100 miles from one another, we decided upon a meeting date and time

at which we could complete our addendum, which had been requested. As many of us were not clear on part of the reviewer's response, we felt we should take some time to review our proposal and his response.

We met as a group once again and requested our cluster coordinator to see if he could get a clarification for some of our questions/concerns. We then decided to write a "cook book" as a result of our practicum design and over-all master plan for the chronological outline of the book, rather than to proceed with the audio-visual presentation concept. It was decided that each man would develop an outline for his area of responsibility of the manuscript.

We met at a later time to complete an addendum to the original proposal. Some of us had already developed our individual plans and were implementing these in our respective school districts. We received a request for another addendum to our proposal. We discussed, individually over the phone, how we were going to get any answers for some questions each of us had of Murray Heyert's reply to our addendum. We finally decided upon a conference telephone call. We clarified all of our issues and questions during the conference call. A second conference phone call was initiated to complete the requested information for Murray Heyert. It was difficult to continue to drive 3-4 hours round trip for these meetings.

By this time, most of us were done with the implementation of our over-all plan. Our original master time-line had been to have the manuscript completed by the end of June. As our final approval did not evolve until late May, an additional meeting was held to determine progress toward the completion of our manuscripts to revise our time-line. We had hoped to have the Practicum Report completed by the end of August. As a result of the distance for each of us to drive, and other problems such as three members of the team changing professional positions, a number of delays in the time-line were experienced.

We mailed our manuscripts to each other so that when we met again we could reflect upon each chapter, and then construct the entire manuscript. After numerous meeting cancellations, due to labor negotiations, opening of school, and other factors, we finally established a meeting date to coordinate our written manuscript. As we met on Saturdays for many of our other work meetings, this provided us plenty of time to discuss each chapter and to coordinate, revise, and alter items of conflict. A typist was employed to prepare the final manuscript. We each accepted responsibility for the writing of various parts of our Practicum Report. We established a common format to be used by each person.

We met for the last time to review, coordinate, and alter the various segments of the final Practicum Report prior to the final preparation for submission of the Midi-Practicum.

V. A. IMPLEMENTATION OF CLYDE FISCHER'S PORTION OF THE MANUSCRIPT

The Board of Education and the entire administrative staff discussed the important aspects involved in the administration of a bond election. Numerous plans and problems were discussed at four different meetings before a final decision was developed for the plan to pass our bond issue. Time itself was one of the key issues, and the bond election was changed from the Fall of 1974 to June of 1975. Because of impending layoffs in the automobile industry and related fields, the Board of Education wanted a more favorable time to ask the citizens for additional tax dollars.

Specific administrators were assigned definite tasks to perform in preparation for the bond proposal and an outline of tasks to accomplish during the actual election. Parents and block or area captains have been designated to organize the potential "yes" voters in their assigned neighborhoods. The actual selection of area captains was complicated because some of them were reluctant to accept the responsibility and/or spend the required time needed to canvass and sell their area constituents on the reason and logic of the bond issue.

The idea of involving one of our major universities as an outside resource was used in a previous bond issue just two years earlier, and the Board of Education felt that the building needs analysis was still valid. Additional services were not requested from Michigan State University, but the architectural services involving building and population projections were to be utilized.

The population projections were developed by the administration with the cooperation of the architect and the many resources available to us (i.e., the township and city planning commissions, telephone company projections, our school census, present and past student enrollments, existing school student projections, and the Southeastern Michigan Transportation and Land Use Study). All of these sources were used to develop a five-year population projection on which additional school room facilities were justified. The community growth pattern was used to determine the location of the proposed new high school. We took into consideration a site that would eliminate as much school bus transportation as possible. This important aspect will reduce future costs such as buses, drivers, maintenance, repairs, gas, and oil.

The Board of Education selected a committee, involving two board members, the administration, and selected citizens, to develop a questionnaire that would not only solicit answers to questions but also inform the public concerning a second attempt

to pass a bond issue. The questionnaire was developed after many long meetings to ask and identify what the committee members thought had to be put before the public. The original idea was to keep the questionnaire short--six questions with a simple check required of the responder. The actual questionnaire was a compromise which drew much criticism because it was long, complicated, and did require some written responses. We estimated that approximately ten percent of the registered voters did respond. The questionnaire itself was not a successful instrument. The responses were not varied enough to give us a definite feeling of how the public felt. This was compounded by the fact that most of those responding were probably school supporters. This assumption was made because the large majority of returned questionnaires were brought back via the students in our schools and only a few were answered on the printed questionnaire circulated through the local newspaper.

In an effort to save myself time, I asked each building principal to total the responses returned to his building on a form which I developed to ease the tabulations. This proved to be of great assistance in tallying the results. My secretary made a separate booklet for each Board of Education member, administrator, and local newspaper, containing a composite of all the answers and comments. I requested that the results be published by the various news media.

It should be pointed out that I met with each of the eight school staffs and three civic organizations to discuss the questionnaire and answer their questions before they responded to the survey in an effort to determine where the general public might have difficulty understanding what we were asking. I made a mistake by having the questionnaires printed (at a cost of four hundred dollars) before I made the rounds of schools and civic clubs. I could have clarified some of the questions had I used a rough draft in my personal appearances, and then had the questionnaire printed.

V. A-1, ASCERTAINING THE REQUIRED INPUTS

The organizations, number of people involved, time required for total groups, and costs involved for my portion of this project are estimated as follows:

Organization Involved	No. of People	Total Time Required	Actual Dollar Cost (not including salaries
Board of Education	7	126 hours	--
Administrators	11	260 hours	$ 60.00
General Public	900	450 hours	--
Newspapers	3	10 hours	200.00
Civic Clubs	95	95 hours	--
Teachers	145	145 hours	--
Non-instructional personnel	130	130 hours	--
Printers	3	30 hours	400.00
Secretary	1	80 hours	--
Architect	2	50 hours	% of Bond Issue
Totals	1,297	1,376 hours	$660.00

Additional time and money will be spent the Spring prior to and during the actual election process. An additional amount of dollars will be needed to develop a prospectus, print the bonds, sell the bonds, and pay the school board attorney. The actual bond election is presently estimated to be $9,000,000.

V. B. IMPLEMENTATION OF WESLEY BOUGHNER'S PORTION OF THE MANUSCRIPT

As a result of the short time span of the Mid-Practicum, the actual practicum was the implementation of only the last two phases of the UTCCISDM. I felt that the six-month implementation of these two most important phases are of most immediate relevance to most administrators than are any other six-month segment.

A. Volunteers

I had already been directed by my superior to develop the curriculum and educational specifications for the new building. The first thing I did was to seek volunteer teachers from the district. Any teacher who desired to assist in the development of the curriculum and educational specifications for the new elementary school that was to be built, could attend a series of inservice seminars after school, where we would apply ourselves toward the development of the curriculum for the building. I specified no guidelines for persons who wanted to be involved, other than that most of the time would have to be voluntary, and that the final staff for the new school would be selected from this group. I distributed, with the district memo to all teachers, the list of topics that were to be discussed, a list of the consultants, meeting dates, meeting times, and the meeting place. This memo was distributed to all PTA Presidents with a special request that they, or a representative, set as a regular member of this committee. Administrators were also invited.

B. Curriculum Development and Design Process

1. Organizational Meeting, 1st Meeting, 4th Week

At the first organizational meeting I explained the process we would use for the development of the curriculum. I didn't mention the Curriculum Validity Component which I would use at a later date. It was explained that teachers would receive no pay for these meetings. Attendance for teachers was mandatory, unless excused, for those persons who wanted to teach at the new building after it was completed. I further declared that anyone in the district was welcome to sit in on these seminars. Parents were welcomed and it was explained that they were to be regular members of the committee structure.

Sixty-seven, of the possible 234 classroom teachers, attended this after-school organizational meeting. All PTA's were represented. Only three of the nine elementary principals showed up to participate.

We discussed the intent of the curriculum design and the unusual procedure we were to use. There were no reactions, positive or negative, to the procedure. Teachers accepted the procedure and asked a few questions about the mandatory attendance and whether there might be future release time for the project. I explained that there would be visitations to other schools and a possibility of two half-day release-time sessions, but I could make no promises, as this had not been approved yet.

The teachers were divided, on a volunteer basis, into eight functioning committees. The first seven committees were each to investigate one of the following areas and send a 1 to 1 1/2 page typed report to me before the meeting was held in two weeks. I wanted to make copies of their reports so that they could be distributed to all participants. The areas of investigation were:

1. Identify the Current Purposes of Education
2. Review Goals of Quality Education
3. Identify Current National Priorities of Education
4. Review of State Common Goals of Education and Accountability Guidelines
5. Review of the Local Board of Education's Philosophy, Goals and Objectives
6. Review Board of Education Dictated Curricula
7. Review Future Trends of American Education

The eighth committee was to act as an evaluation committee for each of the seven written and oral reports that were to be presented at the meeting to be held in three weeks. I requested them to develop an evaluation form to be used for the speaker we were to have next week.

We collectively decided that we should take the remainder of time to let these committees meet, elect a chairman and plan their strategy to complete their respective assignments.

2. 1st Seminar, 2nd Meeting, 6th Week

I sent out a memo to all teachers inviting them to hear the speaker for this after school meeting. A man from one of the local universities gave a talk, with very good A.V. materials to supplement it, on the subject of "Influences on Education Today". After the 45 minute presentation, we again divided into our groups to check on the progress of each member and to complete the "Speaker Evaluation" I distributed to them.

3. 1st Workshop, 3rd Meeting, 7th Week

Meeting reminders were sent to all persons that had attended either of the two previous meetings. Each of the committees presented a 10-15 minute oral report to the committee-of-the-whole on their area assignment. It was evident that all but one of these committees had put quite a bit of time into these reports. They had talked to administrators, school board members and even State Department officials. The written reports ranged from a half page to three pages, with one report not completed.

The evaluation committee had established a short assessment instrument based on a 1-5 rating scale for each reporting committee. Each member of the evaluation committee completed an evaluation on each committee. They felt the results of these should be presented to the committee chairman for them to share with their committee members. The evaluations covered both the oral

and written reports of each committee. They also recommended that a different committee might accept the responsibility for completing the evaluations at each meeting. This recommendation was accepted and a schedule was to be developed.

Committees met briefly once again and drew papers that had three topics listed on. They were to investigate each of these topics and present a short written and oral report on each, the meeting scheduled in two weeks. One of the committees volunteered to act as the evaluation committee for the meeting in three weeks. At the end of the meeting the evaluation team recommended that each committee utilize some forms of A.V. for their presentations. Seminar evaluations were once again completed by all participants.

4. 2nd Seminar, 4th Meeting, 8th Week

Memos were distributed to all 66 of the inservice participants that had been regularly attending the seminars.

A curriculum consultant that I had arranged to lecture, discussed those types of curriculum philosophies listed on I., page 63 of the TCCISDM. There were the same topics that the committees were given. He gave a very stimulating talk, which culminated with many questions. The meeting adjourned 40 minutes later than the normal 1 1/2 to 2 hours we had been spending at the other after school meetings.

I handed out the "Speaker Evaluations", which the participants completed and returned.

5. 2nd Workshop, 5th Meeting, 9th Week

I sent out the customary reminders for this half day release time inservice. I had previously made arrangements for substitutes to be hired for all teacher participants. I had received additional four requests from teachers requesting to be included in this inservice seminar. I declined to let them attend the seminar as it wouldn't be fair to the other people to consider them for any staff positions in the new building.

I received permission to provide a half day of release time for this seminar, as a large amount of material was to be covered and I felt it would be better to establish the philosophy for the school in one day, without an interval between meetings.

All committees presented good oral and written reports. Many committees had identified a number of published articles dealing with their topic. As I received these in advance, I reproduced these for all members and they were distributed at the meeting. As I had been in contact with all committee chairmen periodically to ensure they were meeting and completing assignments, three had asked me to get A.V. equipment for this meeting. Two of these committees gave excellent A.V. presentations on their topics.

I had limited all oral reports to 10 minutes, with a 10 minute question/answer period, when the remainder of the committee-of-the-whole could challenge or support the topic. After all oral presentations had been completed and reports distributed, I opened the floor for discussion as to which of the philosophies discussed today, and those discussed by our last speaker, seemed to best fit the needs of the children. A rather lengthy, sometimes unruly, discussion prevailed at this point. I finally had to relate to Roberts Rules and insist that only the chair recognize speakers. Although there was much discussion about "Open Schools", "value-centered education", and "Schools Without Failure", I felt a consensus would not be reached and that to continue the meeting with this many people involved in such a volatile atmosphere was detrimental to the entire spirit of one of my objectives of this program.... professional interaction. I thought I would try one more strategy. I halted "discussion" and had the group brainstorm one-word qualities that they would like to see in a curriculum. We listed about 60 words. I then asked them to take five minutes quietly, without talking to anyone, and review the brainstorming list and the previous committee reports. After everyone settled down to the task-at-hand, and after much orderly discussion, it was unanimously voted to build an open school with a School-Without-Failure curriculum. The curriculum was to include standard academic subjects with an emphasis on the affective domain and individualization.

It was decided that the chairmen would submit for the group's approval at the next meeting, the written building goals. I thought this was interesting, as one of the chairmen was a PTA person, and not an educator. One committee was going to meet with Board members to: (1) Get their reactions on the identified curriculum and to identify Board of Educational priorities and limitations. Each of the other committees were to investigate one of the topices of the Vertical Movement portion of the Boughner Trichotomy School Organization Design Model[3]. Inservice meeting evaluations were distributed and completed by all participants.

It was decided that the calendar for the next meeting dates that I had originally prepared, should be altered. It was also decided that we would schedule only two meetings in advance, as we would need more time between the next few meetings to prepare for visitation schedules and days. I didn't have the entire Trichotomy completed at this time in its final form, but I suggested that I would send out information dealing with the Trichotomy concept. I further suggested that all participants should review the distributed information in preparation to building a school visitation schedule. It was suggested that each committee would draw up their own list of possible schools to visit, based upon the Trichotomy information I provide them, and meetings that they have to discuss this topic. I recommended that I attend each committee meeting in the next few weeks to answer questions, assist them with a list of where they might like to visit to see specific concepts, and to arrange for them to make their visit. They agreed to this and it was agreed that teams of 2-3 teachers

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[3]Refer to Figure 17, page 98 and the information on pages 96-101

would visit each chosen school. I had already received permission for each teacher to make two half-day school visitations.

This was a very successful release time inservice. We accomplished much more than I had programmed for, although, at one point, I thought that the inservice was going to be a complete disaster.

6. School Visitations, 6th Meeting, 10th Week

I subsequently arranged to meet with all of the committees on an individual basis. Visitation schedules were set up and I made arrangements for the visitation at these schools. I requested each visitation group to develop a list of what they were looking for, questions for students, questions for teachers, and some type of rating system for their final impressions of how they judged their particular Vertical Movement within each school. It was decided that the next meeting was to be scheduled in three weeks.

7. 3rd Workshop, 7th Meeting, 12th Week

Notices were distributed to all participants, for this after school workshop. The chairmen submitted 8 goals for the building. They cautioned the committee-of-the-whole that lengthy discussion on the topic of building goals would only lengthen and weaken the basic goals that had already been identified. The goals were accepted as written, with a few minor semantical and punctuation alterations. The other committee reported that our philosophy was in no way in conflict with Board members. It was related that our philosophy closely paralleled their priorities and concerns. The committees all submitted written and oral reports on the Vertical Movement of the Trichotomy. Having had the input of these investigative preliminary Vertical Movement reports and some of the completed school visitation reports, the floor was open for discussion to develop the school administrative organizational pattern. There was a lengthy discussion about the differences between "non-gradedness" and "continuous progress". Nearly all of the teachers discarded the "graded" concept. It was finally decided to non-grade the entire school, with the unifying factor being continuous progress. There was not open opposition to this but there were a number of questions that indicated insecurity on the part of a few of the teachers. I was debating whether I should request that, rather than returning their workshop evaluations anonymously, I might ask them to identify themselves so I could identify who wasn't in agreement with the outcome of the school organizational pattern, as this must be taken into consideration when the final teacher selections are made. I finally rejected this idea, as I already knew who was basically in favor, and opposed, to the nongraded concept. This is a good reason for the coordinating administor to attend all meetings. The evaluation committee delivered their evaluations to the committee chairman.

Each committee took one element of the "Oblique Relationship" to investigate for the next meeting. A new committee assumed the evaluation committee's functions. One committee assumed responsibility to write the final draft of the approved philosophy, goals and Vertical Movement component in their final forms. The next meeting date was set for two weeks.

8. 4th Workshop, 8th Meeting, 15th Week

I contacted all committee chairmen to ensure their progress. Then I sent out the meeting reminders for the 4th workshop. Teachers were working well together now. Six more visitations were reported on by teacher committees. Five teachers had indicated they were no longer interested in continuing the workshops or accepting a position in the new school. All nine PTA's were represented. Copies of the final philosophy, goals and "Vertical Movement" information was distributed. After a day's philosophical discussion regarding the best methods to meet the needs of the students, the team teaching concept was accepted as the "Oblique Relationship" component. The teachers wanted to vote on the "Horizontal Grouping", but I was able to delay this by emphasizing that one of the strengths of this procedure was the inservice aspect of discussing each Trichotomy topic to ensure that all teachers have a common base of understanding. Teachers agreed with this logic as they indicated positive support for the interaction on each topic up to this point of the program. Horizontal assignments were made to the committees. Meeting evaluations were distributed and completed and the next meeting was scheduled.

9. 5th Workshop, 9th Meeting, 17th Week

Reminders were circulated to all participants for the 1/2 day release time inservice meeting. Sixteen additional visitation reports were presented. Horizontal grouping reports were presented and distributed. During open discussion there were a few disagreements by one group toward adopting the individualization concept without prior Board approval and support. A second group disagreed with the multi-age grouping as a contrast to individualization. There was an eventual compromise, as the term "individualization" previously appears in our philosophy statement. Both groups were in agreement with the multi-age grouping concept after the persons that had visited the multi-age grouped schools explained what they had seen, and that the "individualization" element of the Horizontal Grouping was being discussed in almost utopian terms, as a result of the term's many implications. The teachers realized that our teachers and school system is not sophisticated enough, at this point in time, to develop a true "individualized" grouping for a school. This completed the "Curriculum Organization and Design, Phase XXIII."

C. Curriculum Validation

Before the committee-of-the-whole began their work in developing the educational specifications, which is not a part of my practicum, we began the

curriculum validation portion of the practicum. By this time, self-imposed attrition had reduced our participants by 20, from the original sixty seven teachers. All PTA's were still represented and quite actively working with the teachers. We remained with three principals attending the meetings.

Curriculum Validation Inservice, 10th Meeting, 19th Week

I had established a date for the committee-of-the-whole to meet on a release time workshop session. I did not tell them in advance that they would be working on a curriculum validation process. Reminder memos were distributed to all regular participants a week in advance, and again two days before the session was to take place. I requested, in this memo, that participants be familiar with all of the information that we had discussed previously.

I had requested previously that three of the committee chairmen provide a well-prepared 3-5 minute presentation on assigned elements (sides) of the Trichotomy that had already been agreed upon. I requested another of the chairmen (a PTA president) to provide a well-prepared 3-5 minute presentation on the consensus philosophy for the school. These oral reports were presented to the committee-of-the-whole. After brief clarification and discussion, I distributed the "Curriculum Validation Sheet"* to the teachers.

I discussed the instrument, purpose, and how to complete it. I explained that the vertical column headings were not listed in written statements and that they would have to crossreference on the paper to see which goal or philosophy was being validated. These were to be completed by each person and returned unsigned, as I felt that teachers would be more "open" if they remained completely anonymous. It took less than an hour for the completion of the instrument.

After I received these, I distributed the Master Evaluation Sheet and requested that these be completed anonymously. While they were completing the Master Evaluation Sheet, two other teachers and myself reviewed all of the completed Curriculum Validation Sheets. We identified five papers that indicated that those persons felt there were a number of conflicts between some of the goals, philosophy, or curriculum organizational structure.

After the Master Evaluation Sheets were collected, I talked with the teachers about how anyone not agreeing with the goals, philosophy and curriculum organizational structure would find themselves in a very uncomfortable situation next year if they were picked to teach in the new facility. I explained that disagreement with these items does not mean they are not good teachers. It simply means that they would eventually have serious philosophical problems with administration and the faculty, if they were teaching their own ideologies and methods at the new school, and not working as a team member to ensure success of all of these elements of the new school organizational structure. I further requested that it would be a waste of their time to continue working with the committees

*Refer to Figure 3, on the last page of this section.

now that the curriculum is established. It is interesting to note that when we had our next session, four of the five teachers, previously unidentified, did not show up for that, or successive meetings.

My secretary and I tallied the Master Evaluation Sheets and sent copies of the master tally to each participant three days later.

D. Summary

As this is the culmination of my practicum effort, I will report that forty-three teachers, all nine PTA representatives and all three principals continued on to work on the educational specifications for the new building, which has not yet been built.

I feel that the practicum effort was successful. Although the participants were not aware that I was conducting the curriculum development and validation as a part of my Doctorate requirements, their responses on the Master Evaluation Sheet were very positive toward the elements and implementation of the program. I feel this is indicative of the success of the practicum and the completed curriculum design.

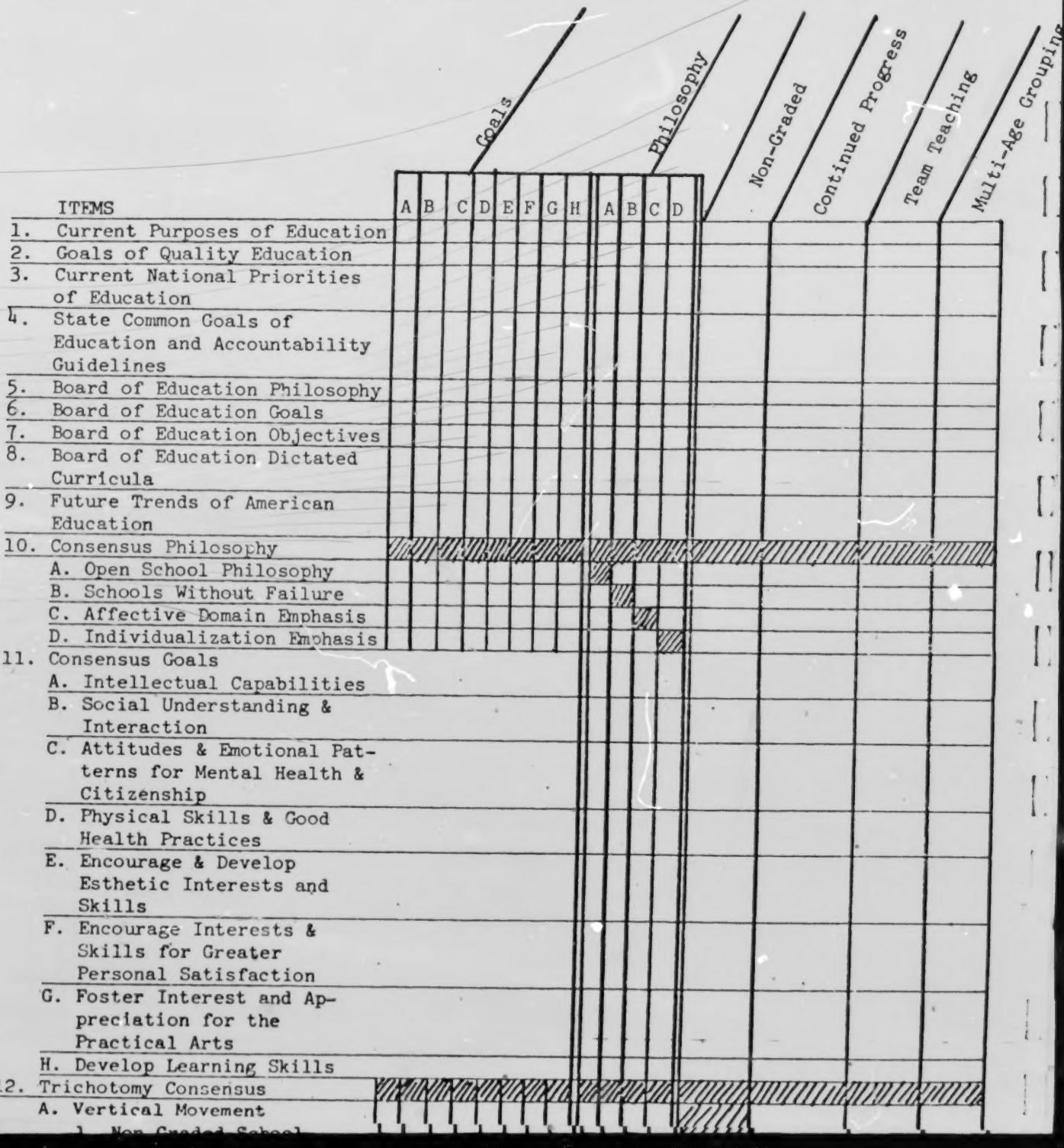
20

Date

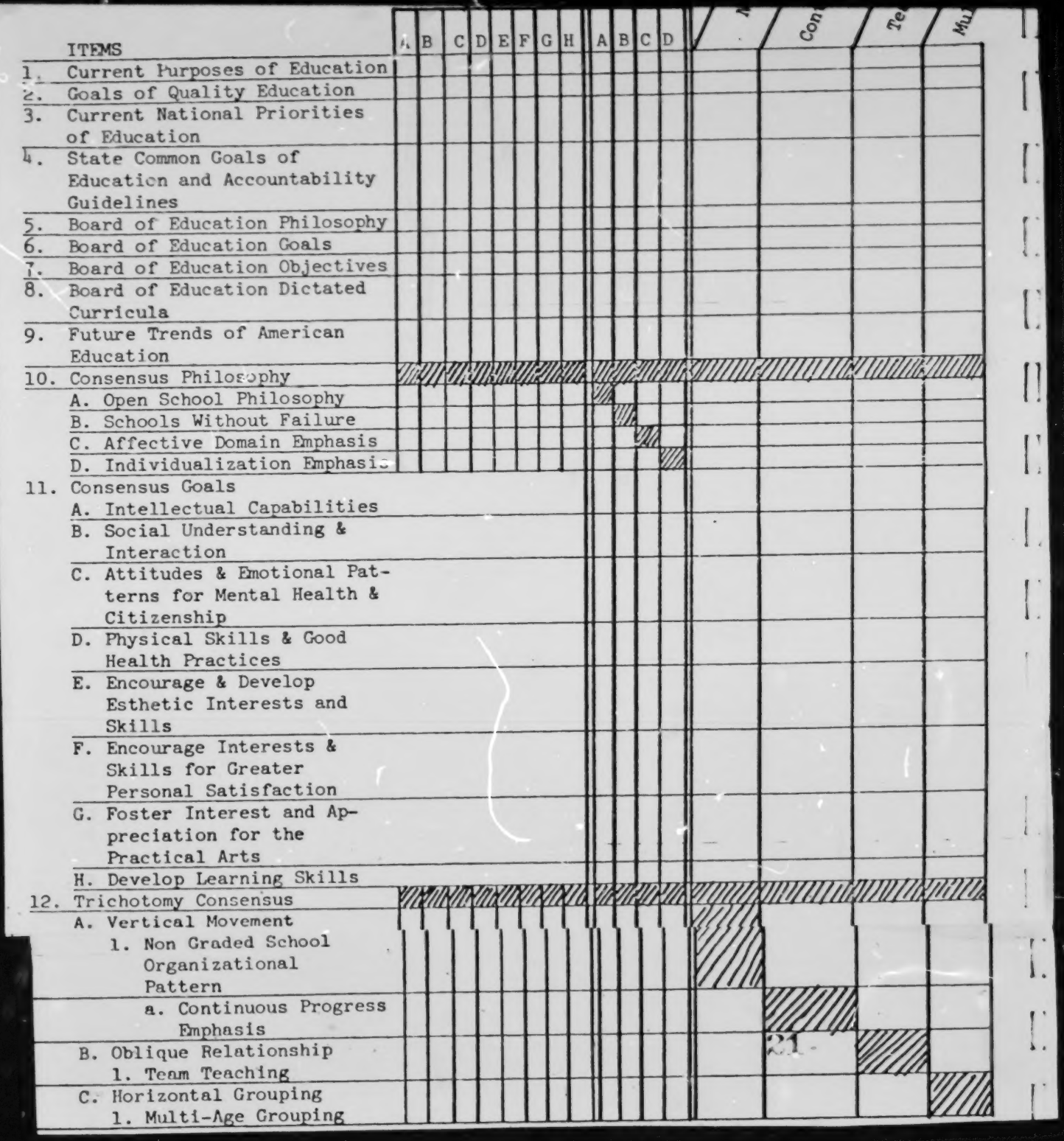
FIGURE 3

2 CURRICULUM VALIDATION SHEET

Directions: Place an "X" in those boxes where the headings are in philosophical, or process, conflict with the items listed on the left-hand column. Leave the boxes blank if they have no relevance to the left column.



ITEMS
1. Current Purposes of Education
2. Goals of Quality Education
3. Current National Priorities of Education
4. State Common Goals of Education and Accountability Guidelines
5. Board of Education Philosophy
6. Board of Education Goals
7. Board of Education Objectives
8. Board of Education Dictated Curricula
9. Future Trends of American Education
10. Consensus Philosophy
A. Open School Philosophy
B. Schools Without Failure
C. Affective Domain Emphasis
D. Individualization Emphasis
11. Consensus Goals
A. Intellectual Capabilities
B. Social Understanding & Interaction
C. Attitudes & Emotional Patterns for Mental Health & Citizenship
D. Physical Skills & Good Health Practices
E. Encourage & Develop Esthetic Interests and Skills
F. Encourage Interests & Skills for Greater Personal Satisfaction
G. Foster Interest and Appreciation for the Practical Arts
H. Develop Learning Skills
12. Trichotomy Consensus
A. Vertical Movement
1. Non-Graded School


ITEMS
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1. Current Purposes of Education
2. Goals of Quality Education
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D. Physical Skills & Good Health Practices
E. Encourage & Develop Esthetic Interests and Skills
F. Encourage Interests & Skills for Greater Personal Satisfaction
G. Foster Interest and Appreciation for the Practical Arts
H. Develop Learning Skills
12. Trichotomy Consensus
A. Vertical Movement
1. Non Graded School Organizational Pattern
a. Continuous Progress Emphasis
B. Oblique Relationship
1. Team Teaching
C. Horizontal Grouping
1. Multi-Age Grouping

V. B-1

Ascertaining The Required Inputs

A. Justification of Time Expended:

The practicum reviewer may question why I am requesting that I receive full credit simultaneously for the Midi and Maxi I practicums. I would suggest that he closely review the information on the two enclosed "Required Input Grids". The time and energy that I have put into this project to effectively resolve the problem at hand, that of designing and constructing a curriculum for the new elementary building that is to be built in our district, helped me not only to complete my objective, but also to provide a sound procedure for any future construction and design of curriclum.

The times identified on "Required Input Grid #I" and "II" are in no way exaggerated. I set aside on the average of 2 working hours a night, 7 days a week, writing and designing this program, since December of last year. As you read through the manuscript, I feel you will agree that the program design was well developed and reflects the large amount of research and planning. If you will cross-reference the administrative hours, listed on Grid I to the actual Maxi I Practicum Report, "Executing the Practicum", I think you will see how the time adds ups quickly.

For example, just a small item such as the proposal outline that was included in my original proposal took me 40 hours to research, plan and write. Although it may look to be a simple process, ask yourself what should be studied in a community needs study. If you look at item #I on my practicum proposal outline, you will note that it takes quite some time to: (1) Identify all areas of study; and (2) To research past completed studies and books to ensure that no important element is eliminated from my program. If this took me 1 to 1 1/2 hours, to plan and write, you can imagine how long it took me to plan and write item VII, page 4, 5 and 6 of the proposal outline (Present Educational Program Study). Total all fifteen items listed in the proposal outline and I think you can see how, to do a good job developing a meaningful coordinated proposal outline, 40 hours was not an exaggeration.

The proposal outline was radically altered after I actually began researching, conceptualizing and writing the program. As a result of a number of problems I identified in the traditional curriculum development procedure espoused by most curriculum "experts", development of my program was to be more precise and instruments/procedures better developed, to compensate and eliminate these problems. As my approach is a radical departure from accepted convention, I felt I must carefully document my manuscript with quotes and research. This, too, was extremely time consuming.

B. Importance of the UTCCISDM:

I attempted from the beginning of my original practicum design, to keep good records of all input, time and energies expended on the program. This was

fortunate, as when I realized that there was no possible way to keep this practicum to the guidelines of a Midi practicum, if I was to make any type of a significant contribution to future change of education. I feel that the only reason that I continued each day, for over a year, to work so hard on this practicum, was as a result of my feeling that there was an importance to the practicum, and especially particular portions of the practicum, to future curriculum development for persons in other school systems that haven't the curriculum experience and expertise to develop a new curriculum for a new building or to revise existing curricula. I feel the input of myself, people I consulted with, participatns of the actual practicum work, money expended, etc. have all provided for a well-documented and extremely significant practicum. Portions of this practicum radically change the present "laissez faire" methods by which we presently develop and implement curriculum in the public schools of today.

C. Implementation of the Practicum:

As the entire UTCCISDM is a two year implementation project, I have implemented, for the Midi and Maxi practicums, the two most significant phases of the UTCCISDM manuscript, "Organization and Design of the Curriculum Component" (phase XXIII),[1] and the "Validation of the Curriculum Design Component" (phase XXIV).[2] Pages 60-70 of the manuscript must be carefully studied by the practicum reviewer, however, as the completion of steps 5 and 6 of the Program Design Development's eleven basic implementation steps, listed on pages 71, 72 and 73, are dependent upon this information.

The required inputs for the planning, writing and implementation of my contribution to the total group Midi practicum effort are graphically stated in the following Grid #II, in which Identify Human Efforts, Materials Consumed, Total Number of Hours Expended and Dollars Spent. Grid #I identifies the entire program practicum and the required input for each area, to qualify for full Midi and Maxi I practicum credit.

[1]Refer to Figure 1, "Utopian Teacher-Centered Curriculum Inservice Study Design Model," Manuscript.

[2]Ibid.

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FIGURE 1

REQUIRED INPUT GRID*

(Implementation of Midi Practicum)

	General Information		HUMAN EFFORTS						MATERIALS			TOTAL TIME (Hours)					BUDGET			
	Sequence of Meetings	Week	Administrative Preplanning & Organization	Secretary	Outside Consultants	Practicum Participants	Administrative Followup	Total	Reproduction (# of pages)	Typing Originals	Total	Administrative Planning & Organization	Meetings	Administrative Followup	Secretary	Total	Reproduction	Administration	Secretary (Typing)	Release Time	Total
Administrative Preplanning & Organization		1-3	2	1	-	38	1	41	260	6	266	9	-	2	4	15	4.68	154.00	14.00		172.68
Organizational Meeting	1	4	1	1	-	79	1	81	265	3	268	3	1.5	1.5	2	8	4.77	84.00	7.00		95.77
1st Seminar	2	6	1	1	1	68	1	71	155	2	155	2.5	2	1	1	6.5	2.79	77.00	3.50		83.29
1st Workshop	3	7	1	1	-	66	1	68	1264	16	1280	1.5	12	1	5	19.5	22.75	201.00	17.50		241.25
2nd Seminar	4	8	1	1	1	66	2	70	172	2	174	2	2.7	1.5	.5	6.7	3.10	86.80	1.75		91.65
2nd Workshop	5	9	1	2	-	65	1	68	2772	33	2805	6	3.5	12	13	34.5	49.89	201.00	45.50	1328.00	1624.39
School Visitations	6	10,11,12	1	1	-	66	-	68	295	13	308	14	396	-	4	414	5.31	196.00	14.00	1650.00	1865.31
3rd Workshop	7	13	1	1	-	64	2	67	972	12	984	2	1.5	3.5	4.5	11.5	17.50	98.00	15.75		131.25
4th Workshop	8	15	1	2	-	61	1	64	1280	16	1296	3	2.2	4	6	15.2	22.84	128.80	21.00		172.64
5th Workshop	9	17	1	1	-	59	1	61	1001	13	1014	.5	3	1.5	4.5	9.5	18.02	70.00	15.75	75.00	78.77

	Meetings																						
dministrative Preplanning & Organization		1-3	2	1	-	38	1	41	260	6	266	9	-	2	4	15	4.68	154.00	14.00		172.68
Organizational Meeting	1	4	1	1	-	79	1	81	265	3	268	3	1.5	1.5	2	8	4.77	84.00	7.00		95.77
st Seminar	2	6	1	1	1	68	1	71	155	2	155	2.5	2	1	1	6.5	2.79	77.00	3.50		83.29
st Workshop	3	7	1	1	-	66	1	68	1264	16	1280	1.5	12	1	5	19.5	22.75	201.00	17.50		241.25
2nd Seminar	4	8	1	1	1	66	2	70	172	2	174	2	2.7	1.5	.5	6.7	3.10	86.80	1.75		91.65
nd Workshop	5	9	1	2	-	65	1	68	2772	33	2805	6	3.5	12	13	34.5	49.89	201.00	45.50	1328.00	1624.39
chool Visitations	6	10,11,12	1	1	-	66	-	68	295	13	308	14	396	-	4	414	5.31	195.00	14.00	1650.00	1865.31
rd Workshop	7	13	1	1	-	64	2	67	972	12	984	2	1.5	3.5	4.5	11.5	17.50	98.00	15.75		131.25
th Workshop	8	15	1	2	-	61	1	64	1280	16	1296	3	2.2	4	6	15.2	22.84	128.80	21.00		172.64
th Workshop	9	17	1	1	-	59	1	61	1001	13	1014	.5	3	1.5	4.5	9.5	18.02	70.00	15.75	1175.00	1278.77
Curriculum Validation In Service	10	19	1	1	-	59	1	61	680	4	684	6	3.5	4	1.5	15	12.24	189.00	5.25	1175.00	1381.49
		Totals	2	2	2	79	2	85	9116	120	9236	19.5	427.9	32	46	555.4	163.89	1485.60	161.00	5328.00	7138.00

*The "Required Input Grid" time line will not coincide with Figure 2 of the manuscript (UTCCISDM Time Line) as the Midi/Maxi I Practicum was implemented as a separate part from the written UTCCISDM manuscript.

V. C. IMPLEMENTATION OF LEE RANDALL'S PORTION OF THE MANUSCRIPT

My involvement in the selection of an architect is a result of previous experiences with building programs and three years of employment with an architectural firm.

Through discussions within the administrative staff, the Board of Education's concern with overcrowded conditions, and parental involvement in school functions, the Board of Education determined a need for a building program. After some preliminary planning, the superintendent contacted me to discuss a proper procedure for the selection of an architectural firm to design the needed facilities. We reviewed the two basic means by which this could be accomplished; namely, contact an architect and inquire as to his interest in performing a service for the school district, and the second procedure which is to interview various firms. The decision was made to proceed through the interviewing process.

I developed an extensive list of questions to be considered. These were reviewed by the superintendent's cabinet for additions, deletions, or clarification. Following the review, a final document was presented for approval along with the recommendation to pursue the interviewing process. Both the process and questionnaire were approved by the board.

In order to assist the superintendent, I contacted the Michigan Society of Architects to obtain a list of recommended firms for our project. The list was added to as a result of individuals' knowledge of particular firms. This could be dangerous, as individuals attempt to use their influence, wherever possible. However, this was not of great concern to us at this time. Our procedure was to forward a document, prepared by the superintendent, describing the district and discussing briefly our plans, along with the questionnaire.

The architectural firms were asked to return the completed questionnaire expressing their interest in our project and to include a brochure, if available, discussing the firm's projects and history. If they did not desire to be considered, they were asked to respond accordingly. An overwhelming response was received by the superintendent.

Our procedure at this time was to review all responses. This was done by a team of administrators. In some cases phone calls were made to specific firms requesting clarification relative to a particular response, question, drawing, photograph, etc. We

then reduced the number of prospective firms to approximately twelve. This list was given to the superintendent along with the completed questionnaires and any materials the firms had forwarded to us. The preliminary reviewing team then forwarded a letter to each firm expressing our appreciation in their interest in our project including any materials that had been forwarded to us. The remaining architectural firms were then reviewed by the superintendent and the cabinet. Following their review and screening, the firms' materials were presented to the Board of Education with a recommendation to interview six firms. The firms were interviewed as recommended by the superintendent.

It was agreed that the board would interview two architectural firms per evening for three consecutive evenings. Times and dates were mutually agreed upon. Ninety minutes was the established time for each interview. Generally, the presentation by each firm lasted fifty to sixty minutes. The remaining thirty minutes was used as a question and answer period.

The procedure proved to be most enlightening for all persons concerned. The presentations varied considerably. Photographs, slides, renderings, models of buildings, and a prepared brochure were the five primary means used by the architectural firms.

Based on the interview, the board determined additional information would be helpful. They then contacted four of the firms requesting the opportunity to visit projects the architect had discussed. We toured two buildings designed by each of the four selected architects. Following the final visitation, the board met and discussed each interview, firm, and visitation. After a very lengthy discussion and review, the board made its final decision.

The superintendent was then asked to forward a letter to those firms considered as finalists and to express the board's appreciation for their time and interest in our project. He was also directed to contact the firm selected to inform them accordingly and to plan a meeting with the board, superintendent, and attorney to establish a contract between the two parties.

Over-all, the experience was enjoyable and most rewarding in spite of the number of hours I invested in this, a preliminary step in our total program. I was present during the interviews and visitations. At times it was difficult to remain silent when particular comments were made by the architects. Following the interviews, the board members would discuss particular aspects of the interview. I continued to remain silent during these discussions. The only time I made any comments was when I was asked a specific question by a member of the board or by the superintendent.

I had the opportunity to ask a number of questions during the visitations. My questions were always directed to the architect and were related to the building as it functioned.

Educational Specifications

The development of educational specifications is always a time-consuming effort but ultimately most rewarding for any individual involved. When the specifications are complete they should provide the architect with a written picture of the building, facilities and how the building should function.

The beginning of this project was initiated by the superintendent during an administrative council meeting. Following a brief discussion of what had to be done, a brain-storming session was conducted. His initial statement was, "We are planning to erect a new high school. What are the various facilities we desire to have included?" The list was extensive as it included the obvious, such as, math classrooms, offices, gym, lavatories, etc. It also included a planetarium, bowling lanes, and escalators.

Following the meeting, a small committee of administrators met to determine those facilities that were realistic and should be investigated and considered as part of the new facility. The final list of facilities was then reduced to eighteen.

We were then asked to submit names of students, teachers, parents, custodians, cooks, secretaries, and administrators whom we believed could offer assistance in the preparation of educational specifications. The lists were then reviewed to establish steering committee chairmen. This final list totaled twenty-two people. The committee was co-chaired by a teacher, student, secretary, and an administrator. The remaining eighteen people served as chairmen of each of the eighteen facilities to be considered.

The initial steering committee meeting was used to make introductions, discuss our charges, list items to be considered per facility, provide a time-line for completion, and establish committees. Each chairman had the opportunity to review the original lists of names for consideration as a sub-committee member or members. People were placed on the sub-committees from various areas of the school district. Each sub-committee had approximately six members. The steering committee developed the name of "The One Hundred Committee."

The over-all charge of the steering committee was to develop specifications for each of the original facilities listed. This was to be done within a four-month period. The architect was to serve as a resource person and would attend committee meetings, provide materials as requested, and/or establish visits to buildings if desired. The "One Hundred Committee" was to meet monthly, the subcommittees were to meet as the committee members thought necessary for visitations, discussions, etc. The monthly meeting provided each committee the opportunity to ask for assistance, discuss their progress, mention particular facilities that had been visited, and to offer ideas to other committees.

The final meeting of the "One Hundred Committee" was the occasion to discuss the specifications being requested for their particular facility and to submit a final report. The superintendent thanked those involved for their efforts and outlined the procedures the Board of Education would follow.

The final responsibility of the co-chairmen was to retype the specifications, organize the materials, assemble a document of specifications, and forward this to the architect.

The architect's involvement with committees provided him the opportunity to get a "feel" for the building and an understanding of the desires of the committee.

The document submitted to the architect was well organized and provided a considerable number of ideas and/or directions we believed to be educationally sound. However, this was not accomplished without problems or conflicts. There were those people who believed a swimming pool was unnecessary, carpeting was for homes not schools, and more than one teachers' lounge was a waste of space. Some committees believed their area of responsibility was the most important facility in the building.

A few ideas were in conflict. This dealt primarily with the location of a facility or department within the building. Another major problem that surfaced was that of space allocation for particular departments. There were those who requested a disproportionate number of square feet per room, excessive storage, and related facilities.

The architect did an excellent job in developing the new facility according to the philosophy of the school district, the dollars available from the bonding, and the educational specifications of the committee. The community will have a building that they can be proud of, an educational program that should excite students, and a flexible facility where any educator would enjoy working.

BIDDING & AWARDING CONTRACTS

There was no way anyone except the Board of Education could be involved in the bidding and awarding of contracts.

The architect did provide all contract documents and working drawings for the contractor to obtain. The bids were prepared on a standard document with alternates provided. The contractors did submit the completed bidding form to the Board of Education office by a pre-established date and time.

The board officially opened and recorded all bids at a public meeting. Following this formal procedure, the Board of Education had thirty days to review the bids, discuss the alternate bids, investigate any bids that may have appeared unusual, and award the contracts to the successful bidders.

The board determined the contract should be divided among the various bidders. They employed a prime contractor to complete a portion of the building. They then contracted independently with selected contractors to complete other portions of the project. This form of awarding contracts has two concerns. One, it usually provides for a considerable savings of money. These funds may then be relocated or diverted to other areas of the project. However, the second concern is more dangerous. All subcontractors on the project must work directly for the prime contractor. Those contracted directly with the board have no responsibility to anyone except the board. The result of this may be a problem in coordination of the construction schedule. The architect is the board's representative on the construction site and did coordinate the prime contractor and the independently-employed contractors. Because of the complexity of school construction, one prime contractor is recommended therefore eliminating a considerable amount of construction coordination by the architect.

SITE SELECTION

The purchasing of the site for the high school took place approximately seven years ago. It was at this time the Board of Education began anticipating the construction of additional facilities. However, at that time there was no specific knowledge or direction as to what type of facility would be erected.

The acquisition of the site was a purchase of fifty acres, with no options involved. The board paid $75,000 for the site. (The estimated value of the land today is $200,000.)

The site was purchased with six primary considerations involved:

1. The availability of land in the school district. The population is centered primarily on the east side of the district.

2. There are no large parcels of land in the populated area of the district.

3. The site is geographically near the center of the district.

4. As the city grows, it will move westward; therefore, in the future the high school will be centrally located geographically as well as by population.

5. There is no industry, railroad, airport, etc. near the site; in addition, the roads are excellent in all directions from the site.

6. There are a number of acres surrounding the site that could be purchased should an expanded facility be desired or should a decision be made to erect additional buildings near the high school. (Transportation building, junior high school, administration building, etc.)

EQUIPMENT NEEDS

The contract between the architect and the Board of Education indicates the purchasing of equipment is the responsibility of the architect.

Like every contract, there are advantages and disadvantages to all parties. From the architect's point of view, he will be paid a larger fee because of this service. It should also be easier for the architect to coordinate manufacturers of equipment, equipment styles, and colors as he has that total responsibility.

If the responsibility of equipping the building rested with a member of the staff, the fee paid to the architect would have been saved.

I have been involved in reviewing some equipment and making recommendations, however, this responsibility rested with the business office. The business office made the recommendations or gave approval to the architect.

V. C-1 ASCERTAINING THE REQUIRED INPUTS

Organization Involved	Number of People	Total Time Required*	Cost (Not Including Salaries)
Board of Education	7	175 hours	--
Administrative Staff	40	250 hours	--
Public	103	2,300 hours	--
Architect	1	45-50 hours**	Established fee

*Approximate times

** This figure is based only on his meetings with the citizens group, presentation to the board, and visitations to his projects.

VI. EVALUATION

According to the communication from Murray Heyert, April 11, 1974, ". . .your evaluation plan is weak. Adoption of your model by your board does not necessarily prove the model has merit. Or, it may be a perfect model and yet be rejected by the board for reasons that have nothing to do with its worth."

The merit of our model should be independent of the action of our respective boards of education or superintendents; we, therefore, have rejected any evaluation by these parties.

Therefore, we have solicited the review and evaluation by three independent parties:

1. Mr. John Kohler, AIA
   Dunbar & Associates

2. Mr. John Vermilya, Superintendent
   Brandon Public Schools

3. Mr. Gene Scott
   Assistant Professor of Curriculum
   Eastern Michigan University

It is our combined opinion the document prepared by the team has considerable merit to ourselves as educators and for our peers who may have a need for the recommended procedures.

We are of the opinion that, as a Midi-Practicum, the time and effort expended surpassed our original expectations.

The following types of evaluation instruments were utilized at one time or another throughout particular portions of the implementation of our Midi-Practicum. Speaker evaluations were utilized for guest speakers. Evaluations such as School Visitation Evaluations, for groups that were investigating different aspects of the curriculum or materials and equipment that were to be purchased, were designed and utilized for specific evaluative purposes. Meeting Evaluations for meetings, seminars, and workshops that were conducted, gave us indications of the value of these meetings to the participants. Staff, administrators, and community representatives were all responders to these surveys. Other evaluation surveys were utilized throughout the practicum implementation process.

In some areas of the practicum, weighting systems were developed to tally more accurate results of the responses, to tabulate more accurate returns, and to identify specific concerns of that portion of the practicum (i.e., the enclosed curriculum Master Program Evaluation Recapitulation Sheet).

The utilization of a data-gathering questionnaire assisted greatly in the development of a better understanding of an architectural firm's capabilities. The questionnaire distributed to the public provided data relative to their opinion of the school district and their desires toward bonding and construction.

Figure 4 - 2. MASTER PROGRAM EVALUATION (Recapitulation Sheet)

Directions: Place an "X" or "✓" in the box that most accurately assesses the value, to you, of the items in the left hand column during the development of the curriculum.

DO NOT SIGN THIS EVALUATION

		No Value	Little Value	Some Value	Much Value	Extensive Value
I.	1. Boughner Trichotomy Process			4	17	38
	2. Boughner Trichotomy Instrument			2	9	48
	3. Reproduced Information For The Trichotomy Concept			1	22	36
	4. Curriculum Validity Process	3	3	6	25	22
	5. Curriculum Validity Instrument		3	4	27	25
	6. Reproduced Committee Reports		1	3	38	17
	7. Reproduced Articles Accompanying Various Committee Reports			2.	36	21
	8. Meeting/Seminar/Workshop Evaluations	3	37	17	2	
	9. Committee Evaluations	1	4	21	21	12
	10. Speaker Evaluations	4	14	30	1	
	11. Building Visitation Evaluation Forms		7	19	26	7
II.	12. Committee Chairmanship Leadership	3	2	11	19	24
	13. Administrative Planning and Follow-through		3	3	24	29
	14. Overall Administrative Leadership		3	3	24	29
	15. Secretarial Assistance			6	21	32

III. DIRECTIONS: Rate the quality of the following items:	No Quality	Low Quality	Average Quality	High Quality	Excellent Quality
16. The Completed Curriculum Trichotomy For The New School		3	6	13	37
17. Inservice With Guest Lecturers	3	1	13	27	15
18. Workshops/Meetings		1	8	22	28
19. Overall Curriculum Development Process		3	5	17	34
20. Total Curriculum Development Program		3	7	16	33

IV. Comments/Suggestions: Place comments/suggestions on the reverse side of this paper.

DEVELOPMENT OF A MODEL FOR PLANNING AND CONSTRUCTING AN EDUCATIONAL FACILITY

By N. Wesley Boughner
Lee Randall
Clyde C. Fischer

Submitted in partial fulfillment of the requirements for the degree of Doctor of Education, Nova University

Michigan Cluster
Mr. Gene Megiveron

Midi Practicum
January 2, 1975

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CHAPTER I ORGANIZATION

As a school administrator thinking about the need for another bond issue, several concerns seem to converge at the same moment and they must, of course, be logically separated and sorted before any real action can take place. It seems that bond issues are usually difficult tasks to sell to voters, but it is less difficult to convince them when school administrators and school boards can demonstrate that existing facilities are severely overcrowded and student growth if expected to continue. In some cases existing facilities are obsolete and are unsafe or obviously detrimental to students' welfare.

The most difficult type of bond issue to sell is one that purports to approve new construction or renovation of existing facilities based solely on the [illegible] that you wish to expand and improve the existing curriculum. Think of the arguments you might encounter while trying to sell a bond issue to add an auditorium, a swimming pool, or adding science laboratories to an existing middle school. The old cliche is still heard: "I received an education in these same buildings and I made out all right, didn't I?"

The difficult assignment for school officials making these kind of proposals is to convince the public that their children are not receiving the kind of education they could be receiving. Perhaps the two shops in the high school need to be expanded to include additional machinery or an additional room for drafting classes, rather than one home economics room--perhaps two or three are needed to expand the curriculum to include cooking, sewing, small home repairs, child care, or other curricular innovations.

Whether your school district is growing or declining in enrollment, some day you as a school administrator will be faced with the need to build or renovate. It will be well to remember and place in good order some or all of the following ideas:

1. Start early to acquaint the public with why it is necessary to build or remodel existing facilities, concentrating on why the present students are handicapped under present school conditions.

2. The more parents and community residents you can bring into the schools to see for themselves what you need, the better your chances of passing a bond issue--or a millage issue. You might even consider bringing key people into your schools for a tour of existing facilities

and explain how additional facilities or renovations will improve the curriculum. If these key persons become convinced of your needs for their children, they'll help convince other people. One word of warning here--there is the possibility that inviting key people like the presidents of the civic clubs or businessmen of the community--some people will take exception to your list of key people because they were excluded, and they may become leaders of an opposition because their feelings were hurt. Citizens should be brought in, but be careful in your invitations, people are very sensitive and hurt feelings take a long time to mend.

3. Involve all employees of the school district in an effort to sell your bond issue. Most school districts of average size employ about as many non-teaching personnel as they do educators. Consider for a moment the number of custodians, bus drivers, buildings and grounds personnel, cooks, dishwashers, teacher aides, lunchroom and playground monitors, crossing guards, secretaries, clerks and various part-time employees, all or most of these people have a husband or wife who is probably a voter in your school district. If you were to multiply your total staff by two, think of the number of "yes" voters you might control with the correct approach. These people are all able sales persons whose opinions are valued by others because, after all, they work for the schools and they ought to know!

4. Remember that in most states you must get a majority of those casting ballots in the election. If you would review the number of "no" votes in previous school bond elections and calculate the same percent of community growth to your count, you would be close to determining the number of "no" voters to expect in your bond election. You then know how many "yes" voters you must get out to win the bond election.

5. Print a series of articles in the local newspapers over an extended period of time as is possible to explain the basic ideas you want the public to become familiar with before the election date. Speak plainly about your ideas and the various plans you have considered, along with the rationale for dropping some by the wayside in favor of others. A questionnaire asking the electors which of two or three types of plans or ideas you wish them to consider is helpful. By stating your questions positively and asking them to check which plan they prefer, you can then publish the fact that the voters answering your questionnaire determined that a new high school should be built, rather than a new junior high or two elementaries. If most people feel that you are attempting to do what

they want, additional "yes" votes will be won.

6. The person-to-person touch of small coffee clatches where administrators and school board members can discuss the issues with interested citizens is helpful. Meetings scheduled with local organizations such as Rotary, Lions, Veterans Clubs, and social clubs can be useful in discussing the school district's problems and future needs.

7. Information about the expanded needs should be openly discussed with the students of the school district. Their needs and aspirations for a better educational environment can do nothing but help to sell the idea of improved curriculum and educational facilities to other people with whom they come in contact. Students want to be proud of their school, and almost any improvement will meet with positive and enthusiastic response.

Organizing a Bonding Program

In most cases, capital outlay funds are needed in substantial amounts at specific times to finance school construction or improvement projects. Because of the large sums of money required at a given time, the large majority of Michigan school districts must obtain these funds by borrowing through the issuance of bonds.

The specific bonding plan adopted by a local school district will depend upon many factors, such as: the amount of money required to meet both the current and anticipated future school plant needs of the district; constitutional and statutory restrictions and limitations; the condition of the bond market, including current interest rates and the amount of all bond issues being offered for sale; the financial condition of the school district, including state equalized valuation, outstanding debt, and overlapping tax rates for other school district and municipal services; and the willingness of the electors to approve particular bonding plans. Because of the many variables to be considered, it is imperative that a school district contemplating borrowing through the issuance of bonds secure the advice and counsel of persons competent in this field.

CHAPTER II POPULATION PROJECTIONS

The necessity for developing long and short range student population projections for every school district (whether it is a growing district or a declining district) is based on one basic need, that being curriculum. What is being taught in our schools and the intrinsic values picked up along the way are, after all, the reason schools exist. Short range student population projections will determine the number of classes being offered based on the number of students scheduled or requesting certain classes. Whether a small high school can offer such classes as a foreign language for a third or fourth year or an advanced mathematics, science, or any highly-specialized class, becomes a matter of the number of students in such classes. If a school district's student-teacher ratio is twenty-one or twenty-two to one, and a school district has even a few select classes with a ratio of five or six to one teacher, the budgetary costs for these classes become so costly that their value to the total student body becomes a real question. You have a choice of loading the remaining classes with a much higher ratio of students to teachers, coming up with the needed extra millage for supporting small class sizes, or eliminating the advanced courses from the curriculum. Unfortunately, many school districts are also faced with the reality of dealing with teachers' unions and master contracts that very specifically determine how many students may be placed in any one class. In some instances, the teachers' union contract also controls the curriculum, which could impose small classes on a school district.

Projections in rapidly growing school districts are readily able to hire additional teachers during the school year as they are needed, but boxed in with curriculum demands and teachers' union contracts, it becomes only too easy to be caught without the needed classroom space.

Several plans have been devised to alleviate crowded classrooms. All of the available plans will not be discussed here, but some of the more practical methods are presented for your information. Some of these suggestions will more adequately be used at the elementary level, while others will suit a typical secondary school.

Double sessions, or the use of a classroom at twice its regular use for students, is a familiar plan, particularly to smaller school districts growing faster than bond issues can be passed or more quickly than their state equalized valuation to debt ratio balance might allow them to build needed buildings if they are taking advantage of state insured bond issues as they exist in Michigan.

A typical rural or suburban school district may have only one secondary building that houses grades seven through twelve or any other combination of grades. If half of the grades are scheduled for the morning session and the other half of the student body is scheduled for the afternoon, the same classrooms are used by two groups of students. Because most states have a minimum number of hours that students must be in school, it becomes necessary to begin the first session at approximately seven o'clock in the morning and run the first school schedule until twelve o'clock noon. The second group can begin classes at twelve o'clock (or five or ten minutes after the hour) and run until five fifteen.

This structure has an advantage of saving money via the expense of operating a noon luncheon, therefore saving the cost of employing personnel to work in the cafeteria. If you are used to paying a teacher or supervisor to oversee the lunchroom, this too becomes a source of savings.

The number of custodians, cost of cleaning materials and maintenance machines, i.e. waxers, buffers, are another source of money savers. This type of savings versus the cost of running your existing transportation service, if you are in fact busing students to school, must be examined. The number of miles put on a school bus can easily double due to double sessions. Then, too, the added expense of having extra vehicle mechanics on duty during the evening hours may cost the district a premium or time and one-half for wages. An inventory of parts is also needed because few heavy-duty parts stores are open when your rolling stock is available for repair.

One of the major problems with double sessions is encountered with the availability of daylight. During the months of October through April in the northern part of our nation, it is dark before seven o'clock in the morning and dark before five o'clock in the afternoon. If you elect to go on double sessions and you include students in grades five through ten, you are going to face the problem of parents objecting to their daughters or sons (usually daughters) standing on street corners or rural roads in the dark. If students must walk up to a mile or more to their bus stops, even more vigorous protests should be expected. Parents will protest because it is dark when their children get on or off the buses, vehicle traffic travels at too high a rate of speec and with their children standing or walking in the dark, it makes it doubly dangerous.

One of the least heard but often felt arguments is that of morality. This takes the form of two arguments--parents are sometimes fearful of their daughters being picked up and/or molested while they walk or wait for school transportation during the dark hours. Secondly, parents are concerned about adolescents visiting each other in their homes during the morning or afternoon hours when they are not in school. This is especially true when both parents work and the teenagers are home alone without parental supervision.

A positive aspect of this same situation is the fact that older children involved with double sessions are home in the morning or after-

noon and are available as babysitters for their parents. A mother in particular has a great deal more freedom to shop, visit, or join a bridge club or bowling team when her older children are home with the younger children.

This same positive attitude prevails when the older children can obtain jobs before and after school. Not only does it relieve the parents' anxiety about idle time creating problems, but it affords the family or the individual student an opportunity to make his own spending money, thereby helping the entire family financially. If, however, this added source of income leads to the purchase of an automobile before the time when the student would normally expect to get his own transportation, this added benefit can become a real added cost factor when you consider the initial cost of the car, the added insurance, repair bills and cost of gasoline. The emotional and/or psychological aspects of young teenagers driving their own cars can also make a difference in dating trends and in their ability to perform as well in their academic pursuits.

Staggered starting times makes more room available in fewer classrooms. If students are not primarily bused to school, this staggered starting time has merit. One-fourth or one-third of the entire student body can start school at eight o'clock, another fourth or third at nine o'clock and ten o'clock. Large classroom participation such as boys and girls gym classes, swimming classes, study halls, large lecture classes in social studies, typing classes where a hundred can receive the same kind of instruction as ten typists, etc., can be scheduled for the few hours when the entire student body is present.

Lunch time will also bring numbers of students in the classrooms at this peak period down to manageable level. This is particularly true if the school has an open lunch which allows students to leave the school during their lunch hour.

This type of scheduling also allows students to get full or part-time employment during their high school days. This, of course, has the same drawbacks as double sessions for much the same reasons. Participation in extra-curricular activities can also be a problem regarding student participation and scheduling. In small schools, the availability of teachers who will return to school after they have finished their teaching day for activities in the evening hours might create some limitations.

The year-round school has been gaining popularity in some sections of our nation.

CHAPTER III ADMINISTRATION OF A BOND ISSUE

Let's take a look at the board of education as a channel of communication. Those of you who plan to communicate through the board will be dismayed to hear that board members are virtually ineffective communicators; superintendents are generally ineffective because they tend to talk only to members of the power structure.

Perhaps the most depressing bit of information I found came from a study conducted in the State of Washington. Researchers there found that only one parent in four could name his child's teacher--and only one secondary parent in seven could name any of his child's teachers.

The person-to-person source of school information is also very revealing: when people want information about schools they tend tc go first to the school secretary; then they go to a member of the teaching staff; and, finally, they go to either the school custodian or the building principal. One of the keystones to success is your organizational structure. Try to develop a marketing plan headed by a campaign coordinator. The coordinator directs the campaign and attends every meeting held by every committee. Most school districts use citizen advisors in their campaigns. But I feel that advisors can be used in a different way. Instead of being above or below the coordinator in the organizational chart, these people can be be off to the right and are controlled by the coordinator. Simply tell them that they are going to conduct a campaign, that you know what your needs are, and you just want them to tell you if you have missed anything or if they think you are doing something that wouldn't work in your community.

Four basic committees can operate during the course of a campaign. All should be chaired by school administrators--this gives you the degree of control needed.

The finance committee can be under the supervision of the administrator in charge of budgeting. His job is to raise whatever funds you decide are necessary to successfully pass the issue.

The publicity committee is headed by a principal who has experience or is good as a public relations man.

The legal/mechanical committee should be chaired by an assistant superintendent who is probably more familiar with legal problems than a principal might be. It is his responsibility to make sure the

ballots are printed, the election inspectors are trained, the voting machines are in the proper place--in short, logistics.

The registration committee is chaired by an elementary principal or a director of elementary education. His duties include the registration of voters, particularly those inclined to vote favorably. Usually, elementary parents are most interested in passing a bond proposal.

To make this organization action-oriented, develop a monthly campaign calendar. The calendar is a "pert" technique, and simply tells who is going to do what when. I think the advantages are obvious: first, everybody knows what the other person is doing, and secondly, the calendar serves to hold people accountable to the coordinator. A few people will always neglect their responsibilities early in a campaign. However, these apathies will correct themselves because those who were not contributing will find themselves subjected to a great deal of peer pressure.

When you look at financial elections held in Oakland County, the State of Michigan, and the nation, you find that when voter turnout is below 30 percent, school financial issues are approved more frequently than not. When voter turnout is between 30 and 60 percent, more elections fail than succeed. There have been a few cases where turnout exceeded 60 percent. Chances of success at this level are somewhat better than 50-50.

In Michigan, the average voter turnout is 36 percent. The data shows that this size turnout is almost perfectly correlated with election failure. One good method of determining the number of "yes" votes needed to win your election is as follows: first, you determine the highest number of negative votes ever case in your school district. Then, because elementary parents are traditionally school supporters, you begin adding the number of kindergarten parents to the number of first grade parents to the number of second grade parents and so forth until you exceed the highest negative vote. In theory, this number of voters will give you a good shot at success. In reality, the theory has two basic flaws--it does not account for those who are not registered, and it does not consider that voter turnouts are increasing.

Another method is to run a defined audience campaign. A general campaign hits all kinds of publics, some obviously more supportive than others. You can evade the negative audiences and overcome the turnout statistics by running several defined audience campaigns within the scope of the general campaign. There are three basic target or "defined" audiences: one, preschool and elementary parents. These people were selected because they have the highest hopes for their children. These are the parents who feel that their sons or daughters are going to be doctors or lawyers--if only because they have not yet failed fourth-grade math.

Staff members compose a second "defined" audience. The rationale for this target is basic: these are the people whose jobs are in jeopardy if the election fails. They have a vested interest.

People connected with the teaching profession who live in your community but work outside the district, are a third "defined" audience. The nature of the beast and the comradeship of unionism will result in a high probability of positiveness.

You can also do some work with new parents because they also have high hopes for their children. If fact, they buy more encyclopedias than any other group.

Add new residents to your "defined" audience. Most people look at the quality of the schools before they move. If they hadn't thought we were good, they wouldn't have moved in--and, in most cases, they haven't been around long enough to know better.

These groups--preschool and elementary parents, staff members, outside educators, new parents, and new residents can form the foundation of a "yes" file.

After deciding to run a "defined" audience campaign, begin to identify supporters and place them into your "yes" file. The information needed consists of the voter's name, address, several identification codes, elementary attendance area, precinct, priority code, and home telephone number.

There are a number of ways to get into the "yes" file. In fact, some people will qualify two, three, or even four times. The first type of "yes" voter is elementary parents. By using voter registration cards, the elementary building principals can identify those who are registered and those who are not. The registered elementary parents are placed into the "yes" file. The non-registered elementary parents receive personal contacts and letters urging their support. If these people register to vote, they are placed in the "yes" file.

The second group identified as "yes" voters are school employees. They are matched against your voter cards. Those who are registered to vote are placed into the "yes" file; those who are not registered receive a personal contact from their immediate supervisor.

The third type of identified "yes" voters are called professional educators. These are people who live in your school district, work in a neighboring district, college, or university. Employee directories can be obtained from nearby educational institutions. If they are registered to vote, they are placed into the "yes" file. If they are not registered, they should receive a letter from the president of the educational association or school board.

The next type of "yes" voter is a resident new to your district. They probably looked over the schools before moving in and felt they were good. Parents of preschool children were the next people plugged into the file. There are also other ways to get into the "yes" file--those who endorse the proposed election are inserted.

You should provide your professional staff with a form and ask them to indicate people they know who are positive "yes" voters as

well as those who are positive "no." "Yes" voters are added, and those identified as negative are pulled from the "yes" file.

The last type of person considered to be a "yes" voter is the individual who had something to lose--people like band boosters, athletic clubs, and sponsors of intramural athletics. Normally, groups such as the band boosters and high school athletic clubs strongly support the schools. Obtain a membership listing and put these individuals into the "yes" file.

To aid in the registration of voters, set aside one day early in the campaign for kindergarten round-up. Then set up voter registration in each building on the same day. By deputizing the league of women voters or Jaycees, each township can be represented at the elementary buildings.

You can use a somewhat different technique in financing your campaign. Create an internal account called a millage fund. Draft a letter to all vendors doing business with your district telling them that for a change the shoe is on the other foot. Quite simply, ask them to buy a piece of the action. The resulting contributions could finance your entire campaign.

There is one final point to make on financing--you should plan your campaign and then finance it. Don't let available finances dictate the type of campaign you will run. Plan the most effective campaign you can and then raise the money to finance it.

CHAPTER IV PUBLIC COMMUNICATIONS

The next step in the campaign process is communication. Most public communication pertaining directly to the election issue should take place during the two or three weeks prior to election day.

It's important that you remember a couple of things in developing your communication objectives. First, use a child-centered theme: "Children mean more in our school district--yes or no?"

Also bear in mind that levy is a four-letter word, and so is mill. One misinformed group I know recommends stuffing election flyers in bags at the supermarket. I can only say that with food prices the way they are today, this would be one of the most serious mistakes any campaigner could make. Aim all of your material at the women, because they control the votes. This means you should keep your material simple, positive, and emotional . . . while making sure you are telling people what's in it for them.

Run your campaign through the elementary school buildings, and each elementary school principal should select an area chairman to assist him. The area chairman organizes block captains or area captains, depending on the size of your school district, to go door-to-door dropping off campaign literature.

Once you have identified your block or area captains, prepare for each of them a campaign handbook which presents an overview of the campaign, and details the role they would play. Then meet with all of the block or area captains in small group meetings and review the handbook. A sample handbook is included with this paper as a guide.

Prepare for these people two pieces of training literature. The first piece presents financial data in an easily-digestible format. The second piece is a packet answering questions commonly asked during school elections.

Block captains or area captains should be directed to make two face-to-face calls on the people identified by the "yes" file. This means that you only call upon registered preschool and elementary parents.

During the first visitation block or area, workers drop off a piece of campaign literature, a question card to be used if the voter thinks of a question later, and an endorsement form. If the person is not home, leave a 3 x 5 card in his door which briefly explains the issues and tells him that you will call again.

If the person flatly states that he is against the schools and he would vote "no," give him a card that says, "I intend to vote 'no'." Remove this person from your "yes" file, and do not call on him again.

Those of you who have tax systems similar to Michigan's will recognize that most "no" cards indicate those people who are using the school election as a voice in opposition to property tax.

On the second visitation, the block or area captain distributes your campaign brochure, asks the person called on if he has any questions, and then asks: "If the election were held today, how do you think your neighbors would vote?" There is a little reverse psychology here. If people are asked how they will vote, a large percentage of the time they will respond favorably because of various social pressures or whatever. By asking them about their neighbors, you make it easier for them to indirectly express personal opinion.

At the conclusion of the second visitation, block or area captains subjectively rate everyone they have called upon as a positive "yes" voter, a positive "no" voter, or a "questionable" voter. These rating forms are sent to the coordinator to assemble in priority order for the "yes" file.

Keep staff members informed of campaign proceedings through your internal newsletter, and prepare an election flyer for them a week before the election.

During the three-week election communication period, administrators should visit every building and speak to teachers, custodians, bus drivers, cooks, and others to explain the issues and answer questions. Incidentally, this "rap session" format (or "road show") is a very beneficial communication technique for year around use.

Our third "defined" audience, outside educators, receive personal and written contacts. First, the education association or school board president sends two letters--which you write, asking for support at the polls. Then each school district teacher is assigned five outside educators, and is instructed to call them, explaining the importance of an affirmative vote, and, in general court the assigned colleagues and make sure they get to the polls on election day.

The community receives broadly based information through the district's monthly newsletter and/or a column in the local newspaper.

You should speak to various service organizations as a matter of courtesy. Also, emphasize your worth to the community by involving kids in events called "specials." These events are non-election in nature and are designed to demonstrate that our schools are doing a decent job. Attempt to get as many people into your schools as possible preceding the election. During the course of the campaign, each elementary principal composes a "personal" letter requesting support. These letters are distributed to all parents.

Also ask each elementary principal to write a handwritten post-card to his positive parents thanking them for their help during the

current school year. This technique can have a tremendous positive impact. I mentioned new parents earlier, and I think we should tell you the technique to keep in touch with these people. My secretary records each birth in our community. Then we send a letter of belated congratulations which assures the parents that we have a fine school district and that we are preparing for their child. A membership card is enclosed for the child which makes him a member of the "future students' association." After one year, the child is sent a happy birthday greeting which again assures the parents that we will have a teacher, desk, book, and chair ready for their child when he enters kindergarten in four years. These birthday mailings are repeated yearly. Major Hubbard of Dearborn uses this technique to perfection. He has been elected more consecutive times than any major in the United States! These mailings can contain a developmental chart for the parents or a list of babysitters in your community. These mailings can give you a prime opportunity to later reaffirm your good intentions while asking for support in an upcoming election.

On the day of the election, a telephone system should be activated. Place poll watchers at each precinct with a copy of the "yes" file in alpha order. As people vote, they are checked against the "yes" file. If they are not in the file, they were assumed to be "no" voters. Each poll watcher telephones his voter tabulations to the campaign director hourly. This provides you with an approximate idea of how the campaign is going in the various precincts.

Three hours before the polls close, telephone callers meet at the precincts and pick up "yes" file listings. They then are assigned to available phones to call anyone not checked off as having voted.

CHAPTER V BOND ISSUE PUBLIC SURVEY

George Gallup, in his most recent survey of the public's attitudes toward the public schools, tells us we can win our next financial election if we meet certain conditions. Gallup says we can be assured of winning if our community is in the western United States and has a population between 25 and 50,000. In addition, says Gallup, all our voters must be white, highly educated, members of the professional class, ages 21-29, and any religion but Catholic. We realize, of course, that this combination of factors is extremely idealistic and highly improbable . . . so we'd like to tell you about the campaign we conducted under combat conditions, and present some techniques that, collectively, will give you a five to one chance of winning the next time you go to the polls. We have isolated seven steps basic to any school financial campaign, simply stated, they are: analysis, determination of needs, development of strategy, organization, finance, communication, and evaluation.

Certainly, one of the most useable analysis tools is the opinion survey. Unfortunately, even the thought of opinion polling makes most school administrators shudder. Somehow--perhaps through a pooling of ignorance--surveys have become equated with walking to Ho Chi Minh trail at night.

During the course of a campaign, you should seek the opinions of students, staff, elementary parents, registered voters, and those who voted in the last election. Here are eight basic questions that will help you plan and successfully administer any survey instrument:

1. What do you want to know?

   This is probably the toughest of the eight questions, and you shouldn't go any further until you know the answer.

2. From whom?

   Do you want to seek information from voters, non-voters, elementary parents, students, or some combination of these populations?

3. Where will you get your sample?

   Obviously, you will have to survey a population from which it is possible to extract a meaningful sample.

4. What instrument or survey technique should you use?

   Although there are a number of techniques for surveying, you have to approach the public in one of three different ways: telephone, mail, or interview.

I have come to favor the telephone survey--here's why: it's quick, accurate, and inexpensive. The system I have developed enables us to execute a survey--from writing the questions through analysis--within 48 hours. Compare this to a survey mailed last January; it will sometimes be returned in June.

A hard dollar cost for surveying 400 people by phone averages approximately $10. Mail surveys are generally returned by those individuals who are either very pleased with the way things are going or by those who specialize in grinding axes. People in the middle of this continuum rarely respond. The telephone survey cuts across all parts of the continuum and provides true random results.

5. How should you word your questions?

   Obviously, wording is important--a number of people make a very good living writing questions . . . and I could do you no greater service than to refer you to a most readable book entitled The Art of Asking Questions by Payne.

6. Who should I pre-test?

   Before the survey is printed into final form, find a group with characteristics similar to those who will ultimately be surveyed. This is a particularly good job for administrative wives and secretaries.

7. Who should administer the survey?

   This should be done by someone who is not affiliated with the schools. You can train the local chapter of the League of Women Voters, the Jaycees, Rotarians, P.T.A., etc.

8. What did the survey say?

   After all this work, you obviously want to know the results. But remember that the public also wants to know. You should rarely release the raw survey data. Always provide the media with a news release concerning the outcome of the survey in its final form.

In a large school district it would be extremely difficult to evaluate a survey without some form of automation. By punching the data into cards or using optical scan, you can quickly tabulate results and perform correlations. In smaller school districts, the administrative team or an administrator and his secretary might best handle the results.

I don't mean to dwell on opinion polling, but I feel it is a very critical part of analysis. Surveys can tell you when to campaign, who to direct your campaign toward, and--perhaps--that you shouldn't have an election because there is no chance of winning.

A copy of a sample questionnaire and letter follows to illustrate the type of questions that were used in the Oxford, Michigan survey. The questions were based on the reasons the previous bond issue failed to pass.

Sample Survey Form

TO THE RESIDENTS OF THE OXFORD AREA COMMUNITY SCHOOL DISTRICT

In March of this year a bond issue for new school construction was turned down by our voting citizens. The proposed issue was to build a new high school facility, including auditorium and swimming pool on the building site at Coats and Seymour Lake Roads. The facility was planned to house grades nine through twelve and to accommodate 1,200 to 1,500 students

The main thrust of this plan was to ease overcrowding at all levels and to provide a quality facility for our future high school students. This would have enabled the present junior high and senior high schools to be converted to a middle school concept with both buildings housing grades five through eight. With grades five and six moving out of the present elementary school organization, the school district would have gained an additional nine classrooms at elementary level to meet our growing enrollment. The present Washington Elementary would have been abandoned for instructional purposes, and the students attending there would have been relocated in the middle schools.

As this fall term began, we found our school district using four relocatable classrooms at the high school. The high school, which was built to house 600 students in grades nine through twelve, now has 750 students in grades ten through twelve. Four relocatable classrooms are also in use at the junior high and the Daniel Axford Elementary. The Oakland County Health Department has recommended the enlargement and modernization of the Daniel Axford kitchen to conform with present health codes. The Washington Elementary, which was erected in 1887 and now houses 300 fifth and sixth grade students is deemed by many as a school building of questionable safety and should be abandoned for student classes. Eighty-five percent of our students are now being bused to classes and additional busing for more students in our district is being requested. The State does not reimburse our school district for busing students living less than 1-1/2 miles from the building they attend. As overcrowding of our schools becomes more critical, the decision to go on double sessions at certain grade levels comes nearer to reality.

Because of the multiplicity of our problems, it is necessary for the Oxford Board of Education to investigate our needs and public opinion for a future bond issue. Before placing the question on a ballot for your consideration and in an effort to place before the public the most positive alternatives for providing the best possible education for our children and young adults, the Oxford Board of Education is seeking your opinion.

Will you please indicate your opinion on the following questionnaire and return it to one of our schools in one of the following ways: send it to a school with a student, mail to P.O. Box 168, or deposit it in a drop box located at Patterson Drugs, Foodtown, I.G.A. and both local banks.

Thank you for your help.

Dr. David Jennings, President
Oxford Board of Education

FACTS and QUESTIONS

PLEASE CIRCLE YOUR ANSWERS

FACT: The student enrollment rate for the Oxford Schools continues to grow each year at a rate of between four and five percent.

FACT: The high school was built to house 600 students if in grades nine through twelve; it presently houses 751 students in grades ten though twelve.

FACT: Our high school is presently using every classroom every hour of the day.

FACT: Class size and available space might dictate double sessions for some, or all, secondary students next year.

FACT: Classroom space and available classrooms for additional growth are non-existent.

FACT: Eighty-five percent of our students are bused.

QUESTION:

Of the possible alternatives listed below for a future bond issue, which do you prefer? Number the choices in your order of preference with number one indicating the highest priority.

A. ___ Construction of a high school, grades 9 through 12, on the Coats Road site with classrooms, auditorium and swimming pool on one issue.

B. ___ Construction of a high school, grades 9 through 12, on the Coats Road site with classrooms, auditorium and swimming pool on three separate issues.

C. ___ Building additions to the present high school, junior high and elementary schools of classrooms, including expansion and improvements of the cafeteria, library, office and physical education facilities at the high school. Grade level accommodations at secondary levels would remain the same (10 - 12).

D. ___ An addition to the present high school of classrooms and expansion and improvement of the cafeteria, library, office and physical education facilities to increase the buildings' capacity to house grades 9 through 12 and additions to elementary schools.

E. ___ Above (D) with auditorium and swimming pool on three separate issues.

F. ___ A new elementary school.

FACT: The Oxford Area Community Schools now own available space on which a new secondary school and a new elementary school can be constructed. This 103 acre parcel is located at the intersection of Seymour Lake Road and Coats Road and is being purchased on a land contract.

FACT: The recommended acreage for a secondary high school building is approximately forty acres.

FACT: The Washington Street Elementary School should be abandoned as a classroom facility.

FACT: The cafeteria at Daniel Axford should be updated.

QUESTION: Should the Coats Road site be continued as an appropriate building site for a new high school?

1. Yes
2. No. If no where, in your opinion, should a new high school be located?

QUESTION: With reference to the Coats Road property, I would like to have constructed:

a. A new high school with an auditorium and pool
b. A new high school with an auditorium
c. A new high school with a pool
d. A new high school
e. A driver training practice course
f. An elementary school
g. None of the above

QUESTION: A new high school should be constructed on the present high school site, with the following facilities:

a. A new high school with an auditorium and pool
b. A new high school with an auditorium
c. A new high school with a pool
d. A new high school
e. A driver training practice course

QUESTION: If it were possible to buy additional property at the present high school site, I would like to have constructed:

a. An addition, including classrooms, gym, pool and auditorium
b. An addition including classrooms and auditorium
c. An addition of classrooms only

QUESTION: If it were possible to buy additional property at the present high school site, I would like to have constructed:

a. A new high school with an auditorium and pool
b. A new high school with an auditorium
c. A new high school with a pool
d. A new high school

QUESTION: Considering the present junior high site, we should construct:

A. A new high school with an auditorium and pool
B. A new high school with an auditorium
C. A new high school with a pool
D. A new high school
E. A driver training practice course
F. An elementary school
G. None of the above

QUESTION: Considering questions 3, 4, 5, 6 and 7, rank in order of preference with number one indicating the highest priority

3. ___ 4. ___ 5. ___ 6. ___ 7. ___

FACT: Architects continue to debate the cost issue about a one story building versus a multi-story building.

FACT: Architects also continue to debate this question: If inexpensive land is available, is it more practical to construct a one story building?

QUESTION:

1. Would you prefer a single story building?
2. Would you prefer a multi-story building?

QUESTION:

Regardless of the cost of the land, do you favor building a new high school close to town and using the present high school as a second middle school?

1. Yes
2. No

FACT: We must expand our curriculum to better meet the needs of todays' diverse field of work to better serve our children.

FACT: The only formal education that many of our children will receive is at the public school level.

QUESTION:

What type of grade arrangement do you favor for the Oxford Schools?

A. Kindergarten through grade 4 ELEMENTARY
B. Kindergarten through grade 5
C. Kindergarten through grade 6 Circle your choice

A. Grade 5 through grade 8
B. Grade 5 through grade 9
C. Grade 6 through grade 8
D. Grade 6 through grade 9
E. Grade 7 through grade 8
F. Grade 7 through grade 9

JR HIGH or MIDDLE SCHOOL
Circle your choice

A. Grade 10 through grade 12
B. Grade 9 through grade 12

HIGH SCHOOL
Circle your choice

QUESTION:

From what one source would you say you get most of your information about the Oxford Area Community Schools?

Answer _____

QUESTION:

I would like to have the following facilities available in a new high school in the following rank order:

A. ___ An auditorium
B. ___ A swimming pool
C. ___ New athletic facilities
D. ___ Sufficient parking areas
E. ___ A driver training course practice area
F. ___ Classrooms and basic curriculum needs only

FACT: In Oakland County, the Oxford Area Community School system ranks last in voted operational millage.

QUESTION:

Do you favor the same amount of money to operate our schools as surrounding school districts spend for their children?

1. Yes
2. No

QUESTION:

Are you a resident of the Oxford Area Community School District?

1. Yes
2. No

QUESTION:

Are you a registered voter?

1. Yes
2. No

QUESTION:

Do you now have children attending school?

1. Yes
2. No If yes, what grades? _____

QUESTION:

In your opinion, which part of the school district will have the highest concentration of students and families by the year 1985?

Northeast (Leonard area)
Southeast (Lakeville area)
Northwest (Thomas and Oakwood area)
Southwest (Oxford village and Clear Lake area)

QUESTION:

What suggestions do you have that haven't been mentioned?

QUESTION:

Would you like more information concerning year round school?

1. Yes
2. No

QUESTION:

Do you know of land (40 acres or more) that can be purchased for $1,500 an acre or less that would be an appropriate place to construct a new high school?

CHAPTER VI RETAINING AN ARCHITECT

Having never been involved in the process of planning for, constructing, bidding, equipping and occupying a new educational facility, the questions or concerns may appear to be monumental. In this segment of the material we will be dealing with the primary question of "How do I (School Board) retain an architect?"

The question is simple, the solution may also be simple; however, not always correct. The most basic may be the school in a small town and not geographically near a large metropolitan area. The contact is made with the one architect in town and the question is asked, "Can you design a school for the district?" The response in most situations will probably be the same, "YES." Your responsibility in the selection has been fulfilled, and you are now on your way to planning and building a new school. Simple and proper, yes, but certainly not necessarily correct.

Assuming the above example of the small town is incorrect and/or the procedure would not be followed, how then can a superintendent and board of education proceed in contacting architects, interviewing the various architectural firms, and making some sort of realistic decision.

The M.S.A. (Michigan Society of Architects) maintains an office in Detroit. Their primary responsibility is to the architectural profession. A portion of the architectural code is similar to that of the medical profession; that is, simply, there will be no advertising. The M.S.A. office maintains accurate information pertaining to the various architectural firms throughout the state. The office may be contacted and in turn will provide a school district a list of firms experienced in school design. However, they will not recommend a specific firm, nor will they provide only one name. This is a very simple means of procuring an accurate list of architects and is also a professional approach to the first step in retaining an architect.

A second procedure that may be used in the selection of an architect is to contact superintendents in the neighboring school districts. This contact may provide an anple list of architectural firms having been interviewed and/or retained by a school district. These two approaches should serve as an ample beginning toward the selection of an architect.

"What next--I have a list of architectural firms; they all have experience; they probably are all interested in designing the building--

how do we select one?"

There is no easy answer, nor is there a simple way to guarantee the proper choice. There are, however, steps that may be taken to assist with the final decision.

Step One

Make a personal contact. This can most easily be done by phone. Call each of the firms you have listed. Inform the architect of your intent to erect an educational facility. You may wish to discuss the nature of the building (elementary or secondary), the approximate size, your plans for bonding, and any data relative to the site. If his response is favorable, state very clearly the procedure to be used by the board of education and if possible the approximate dates various events may occur.

Step Two

Once the decision has been made to contact firms to determine their interest, usually a questionnaire is developed and sent to each of the architectural firms.

This may be either AIA Document B431 or it may be a list of questions the school board and/or administrative staff have developed. In recent years, school districts have used B431 as a guide to developing a questionnaire for their particular district. This, then, may directly relate to a specific building, may concern itself with any unique problems, and may answer particular questions relative to each architectural firm.

If the school district decides to develop its own questionnaire, it is important to ask relative questions and not just create a "mental gymnastic exercise" for the architect to complete. Such questions as: "What is your religious preference?"; "Do you belong to a service organization (Lions, Kiwanis, etc.)?"; "Are you married or single?" while they may seem like humorous questions, should not be considered on your questionnaire. Yes, they may be humorous, but they have appeared on questionnaires to architects, and it must be presumed they were asked in an honest way. These questions, regardless of their intent, have no bearing on an architect or a firm to perform a service for a school district.

A list of questions has been developed for reference. This list may be found at the end of this chapter. They may be used by a school district as they are written or could be altered to correspond with a particular project.

Step Three

There is an additional recommendation when forwarding a questionnaire to an architectural--simply include a statement or outline as it pertains to your project. This may include any or all of the following:

1. Time line.

   a. When you expect to begin interviewing architects.

b. When a decision will be made.
c. When you anticipate a bonding vote.
d. When you would like construction to begin.
e. When you desire to occupy the facility.

2. Specific Project.

a. Elementary or secondary building.
b. Size or number of rooms.
c. Any unique features you desire to have included.
d. Philosophy behind the facility (traditional double-loaded corridors vs. open-space concept).

3. Building Site.

a. Size (acres).
b. Surroundings (residential area, industrial area, rural area).
c. Has the site been selected or are you requesting the architect to assist in site selection?

4. Bonding.

a. Anticipated time of bonding election.
b. History of elections in the particular district.

5. Philosophy.

a. A written statement of philosophy the school district may follow.
b. A philosophy pertaining to this particular project.

6. General Information.

a. Size of the school district.
b. Population of the school district.
c. Information pertaining to the community.
d. Photographs of schools within the district.
e. Financial data as it affects operation or previous bonding.
f. Names of the board of education and/or administrators.

The above plan may in some instances appear to be more work than is necessary. Not true. As a school administrator responsible for the planning of an educational facility and the expenditure of large sums of money, it is extremely important to have a mutual trust and understanding between the school board and the architect.

You may find that after the information has been provided to the architect, they may not desire to work with the school district. It is certainly better to find this early in your planning than to retain an architect that does not have your real interest in mind.

Step Four

The desired questionnaire and an outline of your district and

project has been developed. They have been forwarded to selected firms. Where do we go from here?

Following the time line, the board of education should have ample time to read each response, discuss each architect's response, review any material each firm may forward, and then begin a preliminary selection process.

It may be at this time when you find the questionnaire that had been developed is adequate or may have been unappropriate. The answers provided to the board should assist in the selection, not provide additional questions. Assuming the questionnaire was appropriate and all the responses have been reviewed, one of the decisions now exist.

The first decision may be that none of the firms responding appear to meet our criteria, and therefore, it is necessary to begin the process again. The second is that they all meet the criteria, and therefore, we will interview all firms responding to the questionnaire. Neither of these two decisions are likely. The third, and most probable alternative, is to eliminate some of the architectural firms responding, and select a reasonable number of firms that meet the desired criteria to be interviewed by the board of education.

There is one alternative that may take place and should be discussed at this time. It must be remembered, generally, the larger the project the greater the number of interested architectural firms. As your plans become known to the architectural community, you may be bombarded by phone calls and inquiries. It may therefore be a good idea to develop a policy of forwarding material to any architect that may call or forward material only to those you contacted initially.

With these concerns in mind, and if material is forwarded to a large number of firms, a preliminary screening may be conducted. This could be established to provide the administrative staff the opportunity to interview all potential architects and to then recommend a specific number to the board of education for interviewing.

This preliminary step accomplishes two things. It involves the administrators in the selection of an architect; secondly, under most circumstances, the board of education will convene in the evening--to conduct an honest interview with each of ten, twelve, or fifteen architects becomes extremely time consuming and almost impossible.

When the decision has been made to interview or not interview particular firms, correspondence with each is both ethical and proper. To those firms not selected, inform them of your decision, return catalogs, brochures, etc., and express your appreciation for their time and interest. Remember, they are also professionals and expect common courtesy.

Formal correspondence should also take place with the firms to be interviewed. The letter should indicate receipt of the completed questionnaire, brochure, etc., and that you plan to keep them.

Additional remarks should also indicate the date, time, and place for their interview. It may also be advisable to limit the time of the interview and presentation. The last item to be contained in the letter should indicate to the architect that he should contact the superintendent relative to the interview time and should include any special arrangements he may need for a proper presentation.

Step Five

The interviewing process is next. Above all, keep in mind that the architectural firm selected and its representatives will be working closely with the board of education and the staff for at least two years. Therefore, the "marriage" of the two parties is of extreme importance.

Cautions: (Do or Don't)

1. The architectural representative has approximately one hour to "sell" the firm. Be careful of the "smooth talker."

2. When models of buildings are shown, they are usually impressive. The intent is to provide the client an opportunity to see the building prior to construction. Do not be influenced by the details of the model.

3. Color is always exciting and controversial. If a photo or model is presented, it is proper to question the reason for color choice. The explanation is of greater concern than the colors shown.

4. The size of the architectural firm is a concern but is not necessarily a valid one. There are two extremes:

   a. A large firm should have more potential, however, the apprehension that your project is only one of many; therefore, you may not receive the attention you expect.

   b. A small firm will provide considerable attention because they have fewer projects, however, with fewer personnel they may not be able to provide all the expertise you anticipate.

   What, then, is a good size? There is no answer to the question. As long as the firm can provide the necessary service either through its own organization or by contracting with consultants, your question is answered.

5. The fee to be paid for the architect's service is usually discussed. The AIA has established an approved fee basis. Most firms abide by the guidelines, therefore, the fees charged will be basically the same. (Refer to AIA Document B-141.)

When the interview is concluded, indicate the next steps the board of education will follow and the approximate times these may occur.

After the last interview has been conducted, a decision must again be made by the board of education.

Undoubtedly, questions and concerns will have arisen among members of the board, and lengthy discussion will take place. The board may decide to continue the process of interviewing more deeply. If this should occur, two additional steps are suggested:

1. Contact school districts that have employed the architects being considered and ask:

   a. How they worked with the staff.
   b. The number of change orders necessary to complete the project.
   c. The accuracy of the architect's estimated cost as compared to the construction bid.
   d. The availability of the building compared to the completion date.
   e. The architect's response to building specifications.
   f. Areas of problem or concern that may be avoided and how they came about.

2. The second thing that may be advisable is to plan a visitation to a building or buildings the architect designed. This will provide a first-hand observation of traffic patterns, color schemes, materials used, and, in general, the over-all function of the facility.

Step Six

Steps one through five have been time consuming. They have involved correspondence, reviewing of materials, seeing models and/or pictures, a countless number of questions and answers, tours of educational facilities, telephone conversations, and an endless number of "yes," "but," or "what if?". It is now time to make that final decision on the selection of an architect to design your new educational facility. If the board of education has done their homework, the decision will not be too difficult. Again, correspondence is appropriate at this time. Those firms not selected should be informed accordingly. To the firm that was selected, a letter officially informing them of the decision and a telephone call are both in order. A meeting will then be necessary to discuss the Owner/Architect Contract and all details of planning. The building program is now underway, and the real work and excitement has begun.

Architectural Questionnaire

There are two directions a school district may consider when plans are being developed to retain an architect to design an educational facility. The first is to contact the AIA and obtain a sufficient number of standard questionnaires. The document is well designed and when completed will provide much of the necessary information a school board should have when considering architectural firms. The second alternative is to develop a questionnaire that will ask the questions the school board desires. The responses to each question could provide greater insight into a firm's ability to design the facility desired.

Following is a list of questions that have been asked by school boards. The intent is to show the variety of questions; it should not be thought of as a questionnaire to be reproduced. Also, as questions are read, it will become evident that some may be classified as humorous, unnecessary, or just plain ridiculous.

1. Have you been an architect on any recent projects in our area?

   a. If yes, where?
   b. What type? (elementary, high school)
   c. How large?
   d. Total cost?
   e. Date of completion?

2. Discuss your organization (including information regarding corporation, partnership, history, size, experience, ethnic composition, etc.).

3. Discuss fees (this should include services performed for any fees charged).

4. If selected, when would your firm be available to begin our project?

5. Provide a list of schools you have completed in the last five years with approximate total cost and cost per square foot.

6. Indicate approximate times for:

   a. Educational specification preparation.
   b. Preliminary drawings.
   c. Working drawings.
   d. Construction.

7. Have you worked with school districts in preparing educational specifications? If yes, please list three.

8. What were problems that occurred in the preparation of specifications that we could avoid?

9. Do you have one member of your firm that could assist us

with the organization and preparation of educational specifications?

10. If selected, how would your firm assist the district with our campaign to vote for a bonding proposal?

11. Does your firm provide models of the building? If so, is there a cost?

12. Does your firm provide renderings of the building? If so, is there a cost?

13. List any consultants your firm would employ if you are selected: (Include names, addresses, and number of staff)

    a. Structural Engineers
    b. Mechanical Engineers
    c. Electrical Engineers
    d. Acoustical Engineers
    e. Landscape Architect
    f. Food Service Consultants
    g. Cost Estimating Consultants
    h. Others

14. Discuss field supervision provided by your firm. (Include information regarding number of people, amount of time, how supervision would be organized.)

15. Indicate your experience with any of the following, and your opinions regarding advantages/disadvantages, etc.

    a. CPM
    b. CPN
    c. PERT
    d. Bar Graphs
    e. Time Lines
    f. Fast Tracking

16. Discuss your experience with, and opinion of, prefabricated or modularly constructed facilities.

17. Have you worked with educational consultants on previous projects? If yes, indicate whom, the organization they represented and over-all benefits and problems.

18. Discuss your feelings regarding the awarding of a contract to a prime contractor vs. individual-contract awarding.

19. Does your firm assist in the site selection process?

20. Would you assist with the development of projected enrollments?

21. Who would the representative from your firm be who would work directly with our district?

22. Describe how your firm would plan our building. (Include assistance with preparing specifications, presentations to the board, field supervision, etc.)

23. Name the two buildings you have designed that you consider to be outstanding.

24. Name features you believe to be outstanding in any of the buildings you have designed.

25. What is your reaction to teacher planning of educational facilities?

26. What is your reaction to citizen involvement in school planning?

27. Estimate the total length of time involved from the day you would be retained to occupancy of a new building.

    a. Elementary School - 500 Students
    b. Junior High School - 1,000 Students
    c. High School - 2,000 Students

28. Do you use a standard-fee schedule?

29. Indicate how your fee would be established for our project.

30. What percent of your firm's work has been in the area of school design?

31. What awards has your firm received?

32. What architectural awards have individuals within your firm received?

33. Indicate the religious composition of your firm.

34. Does your firm belong to a chamber of commerce?

35. List social, business, and/or professional memberships held by members of your firm.

CHAPTER VII CURRICULUM DEVELOPMENT AND DESIGN--TEACHER-CENTERED CURRICULUM INSERVICE STUDY DESIGN MODEL

Relevance of the Curriculum Study

After the need for a new facility has been identified by the board of education, the two most critical procedures that must be accomplished are the "Curriculum Study" and the "Development of Educational Specifications." Without the total involvement of faculty and administration in the development process of these two areas, the completed facility may ultimately be an architectural dream . . . but an educator's nightmare. The educational facility must be a reflection of (1) the mutually-developed curriculum; (2) the administrative structure for the grouping/teaching of children within that curricular philosophy; and (3) the teachers and their prejudices, biases and methodology which they will implement within the facility. The curriculum must be established to provide the guidelines for the best architectural layout of the building that will allow the full implementation of that program which teachers have developed for the students. With the properly developed educational specifications that have been developed by the entire faculty, the facility will reflect not only the necessary curricular guidelines that must be used for the final building design, but also the necessary limits that are mandated in the educational specifications as a result of curricular philosophy, administrative policies and guidelines, and individual teacher/departmental preferences. These educational specifications, if built by the team effort of the administration and faculty, must be adhered to by the architect when he is designing the completed building drawings and specifications. Any modification, change, or omission should be discussed with the administrators and those teachers/departments which they affect.

Teacher-Centered Curriculum Inservice Study Model (TCCISM) (See Figure 3)

A. Preface for TCCISM

We have historically accepted that in the process for designing an educational facility, we must plan for the environmental needs of the child, the functional future use of the facility, the health, safety and comfort of the child, beauty, and economy. Teacher effectiveness, however, does not originate from only the above-mentioned areas of concern. These areas of concern are all important, however, students can/will learn in any environment if the teacher is effective.

Teacher effectiveness is based upon two major competencies (1) teacher knowledge and (2) teacher performance. Educational leadership may, or may not, be a critical factor in this delicate balance. Let me illustrate: (Refer to Figure 4)

Figure 1

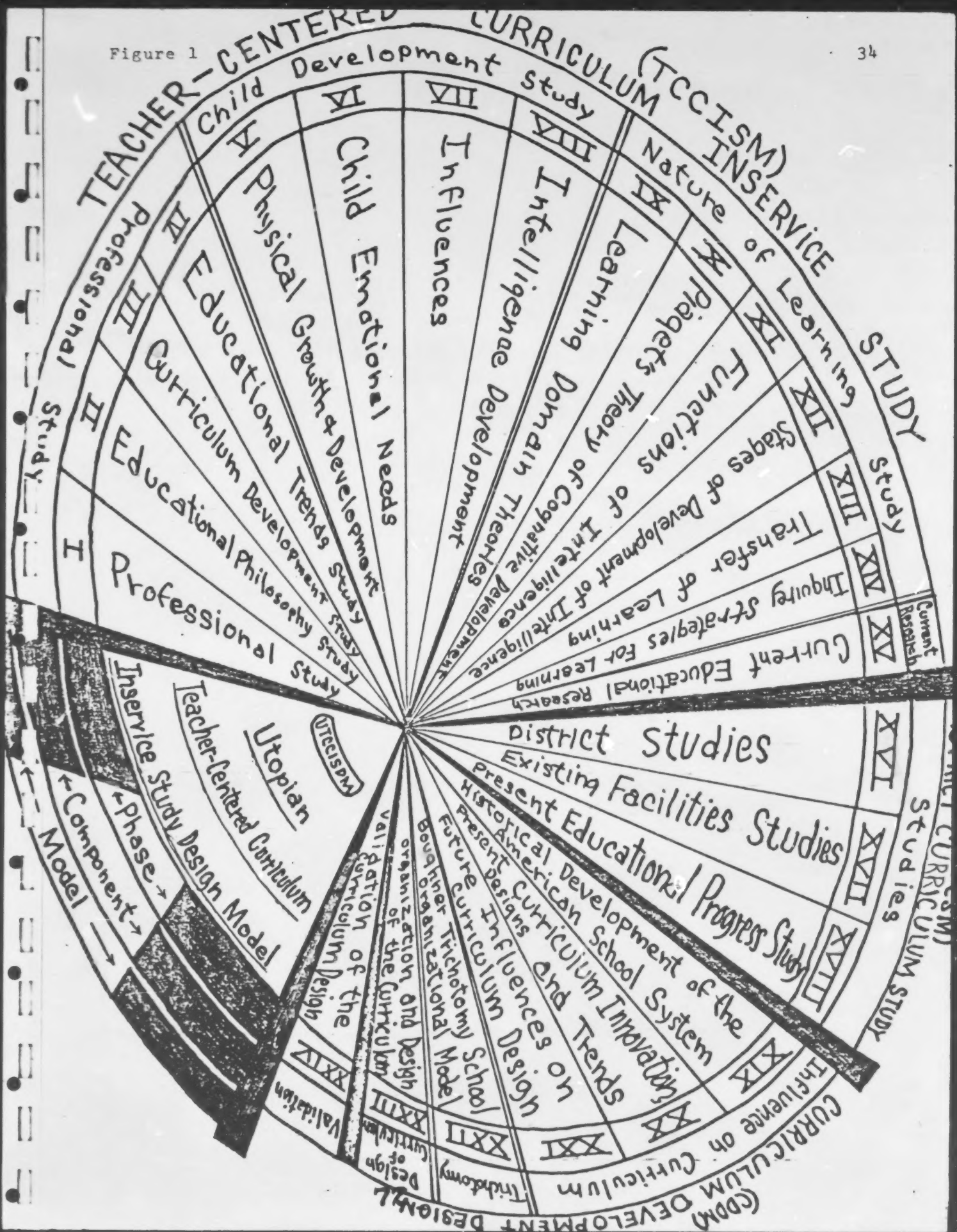

TEACHER-CENTERED CURRICULUM (TCCISM)
INSERVICE STUDY
Nature of Learning Study
Child Development Study
Influences
Intelligence Development Theories
Learning Domain Theory
Piaget's Theory of Cognitive Intelligence
Functions of Intelligence
Stages of Development of Intelligence
Transfer of Learning
Inquiry strategies for learning
Current Educational Research
Professional Study
Educational Philosophy Study
Curriculum Development Study
Educational Trends Study
Physical Growth & Development
Child Emotional Needs
Professional Study
Utopian
Teacher-Centered Curriculum
Inservice Study Design Model
Component
Phase
Model
UTCCISDM
District Studies
Existing Facilities Studies
Present Educational Progress Study
Historical Development of the American School System
Present Curriculum Innovations and Trends
Future Influences on Curriculum Design
Boughner Trichotomy School Model
Validation and Design of the Curriculum
Validation of the Curriculum Design
Design of Curriculum
Trichotomy
CDDM
CURRICULUM DEVELOPMENT Design
Influence on Curriculum
Curriculum Studies

Figure 2 Curriculum Development Design Model (CDDM)

Teacher Centered Curriculum Inservice Study Model (TCCISM)

Curriculum Studies Model (CSM)

UTOPIAN TEACHER-CENTERED CURRICULUM INSERVICE STUDY DESIGN MODEL (UTCCISDM)

TIME LINE

Component	Phase		Month[1] Sep Oct Nov Dec Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec Jan Feb
			Christmas Vacation; Summer; Christmas Vacation
Professional Study	I	Professional	2
	II	Educational Philosophy	
	III	Curriculum Development	
	IV	Educational Trends	
Child Development	V	Physical Growth and Development	
	VI	Child's Emotional Needs	3
	VII	Influences	
	VIII	Intelligence Development	
Nature Of Learning	IX	Learning Domain Theories	
	X	Piaget's Theory of Cognative Development	
	XI	Functions of Intelligence	
	XII	Developmental Stages of Intelligence	
	XIII	Transfer of Learning	
	XIV	Inquiry Strategies of Learning	
Current Research	XV	Current Educational Research	
Studies	XVI	District Study	
	XVII	Existing Facilities Study	
	XVIII	Present Educational Progress Study	
Influence on Curriculum	XIX	Historical Development of the American School System	
	XX	Present Curriculum Innovation Designs and Trends	
	XXI	Future Influences on Curriculum	
	XXII	Boughner Trichotomy School Organization Model	
Curric.Design	XXIII	Organization and Design of the Curriculum	4
Validity	XXIV	Validation of the Curriculum Design	5

1 - Each month is broken into four (4) weeks.

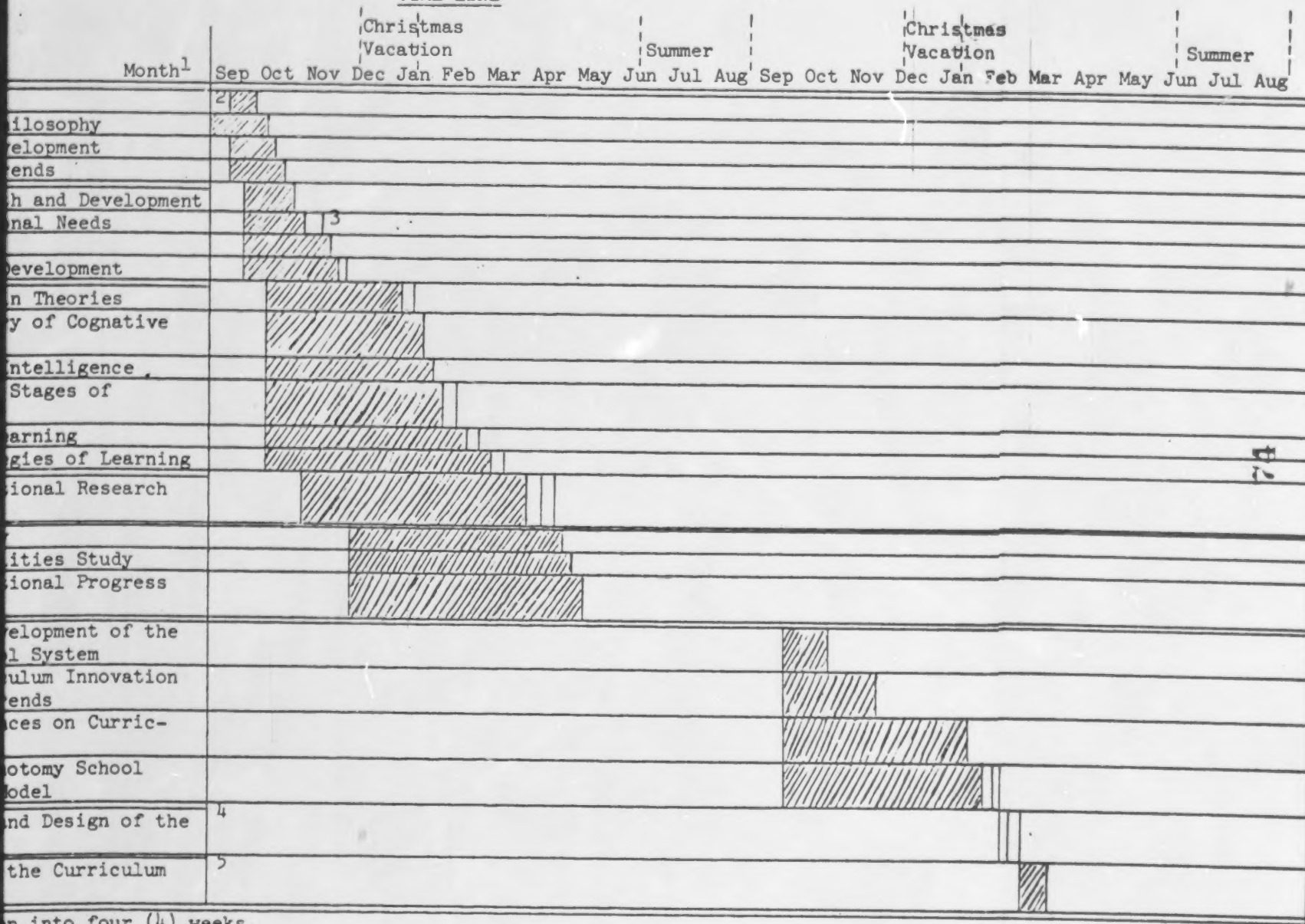
2 - The beginning of each time block the principal meets with committee members and outlines functions and purp
The end of the block is the committee report to the committee-of-the-whole(teachers, administrators, parent

3 - Each extra vertical line on the end of the time block indicates another consecutive meeting of the committ

4 - Refer to "Phase XXIII" of Chapter VIII. Two of these should be 1/2 day release time inservice training ses

5 - Refer to Phase XXIV of Chapter VIII. One of these should be 1/2 day release time inservice training ses

UTOPIAN TEACHER-CENTERED CURRICULUM INSERVICE STUDY DESIGN MODEL (UTCCISDM)



n into four (4) weeks.

ch time block the principal meets with committee members and outlines functions and purposes of the committees.

k is the committee report to the committee-of-the-whole(teachers, administrators, parents, etc.).

line on the end of the time block indicates another consecutive meeting of the committee-of-the-whole.

II" of Chapter VIII. Two of these should be 1/2 day release time inservice training ses

f C er I. e d /2 rel e t ins ini ss

TEACHER-CENTERED CURRICULUM INSERVICE STUDY MODEL (TCCISM)

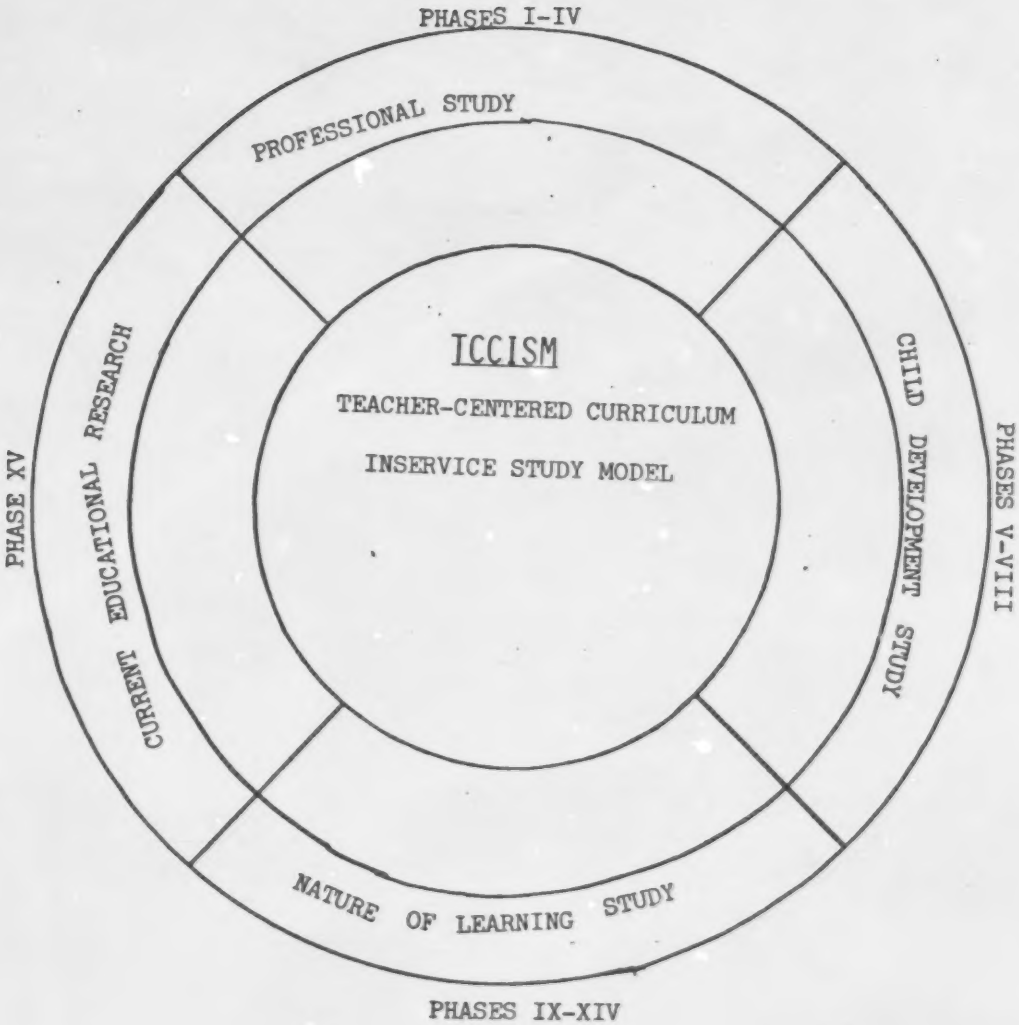
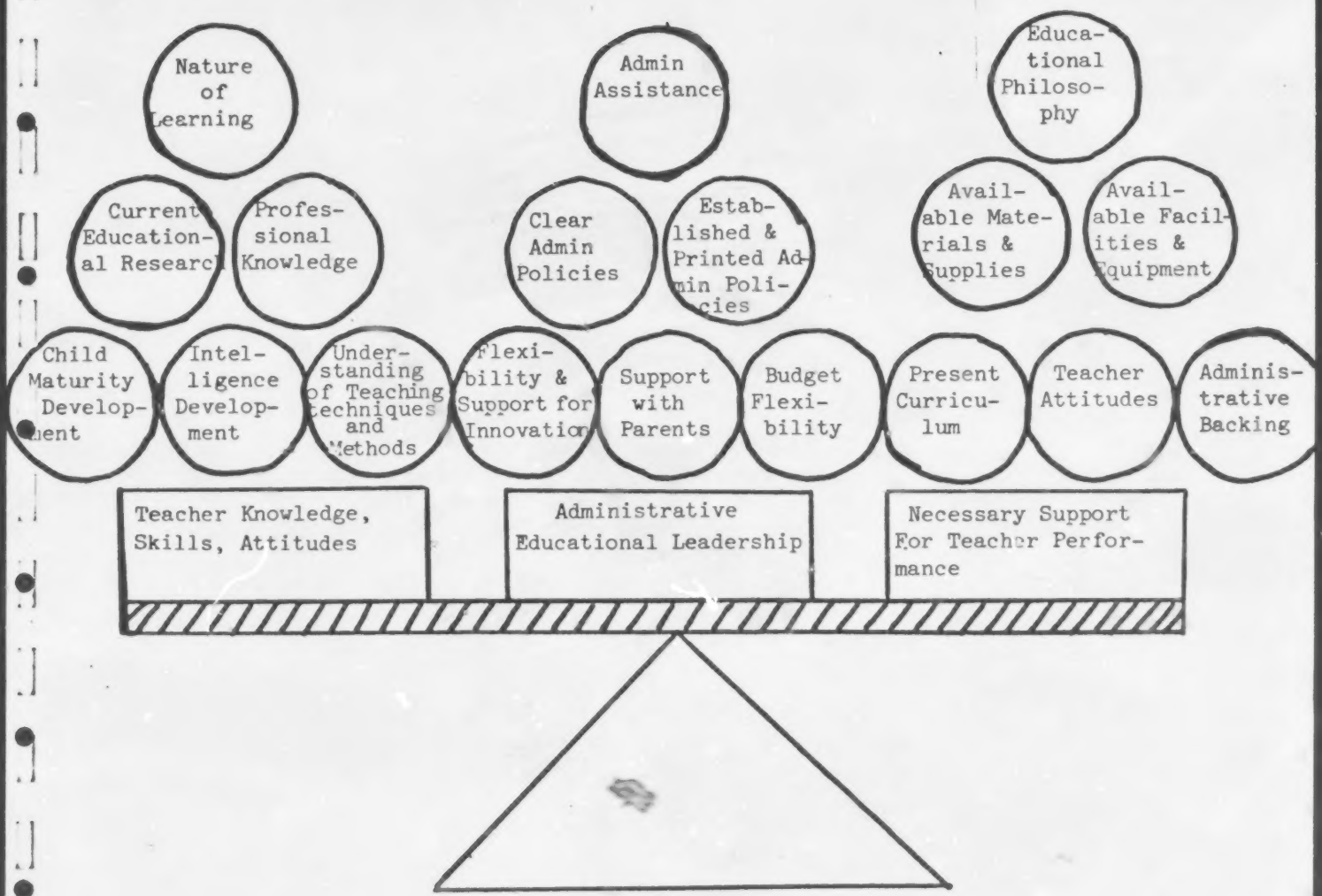
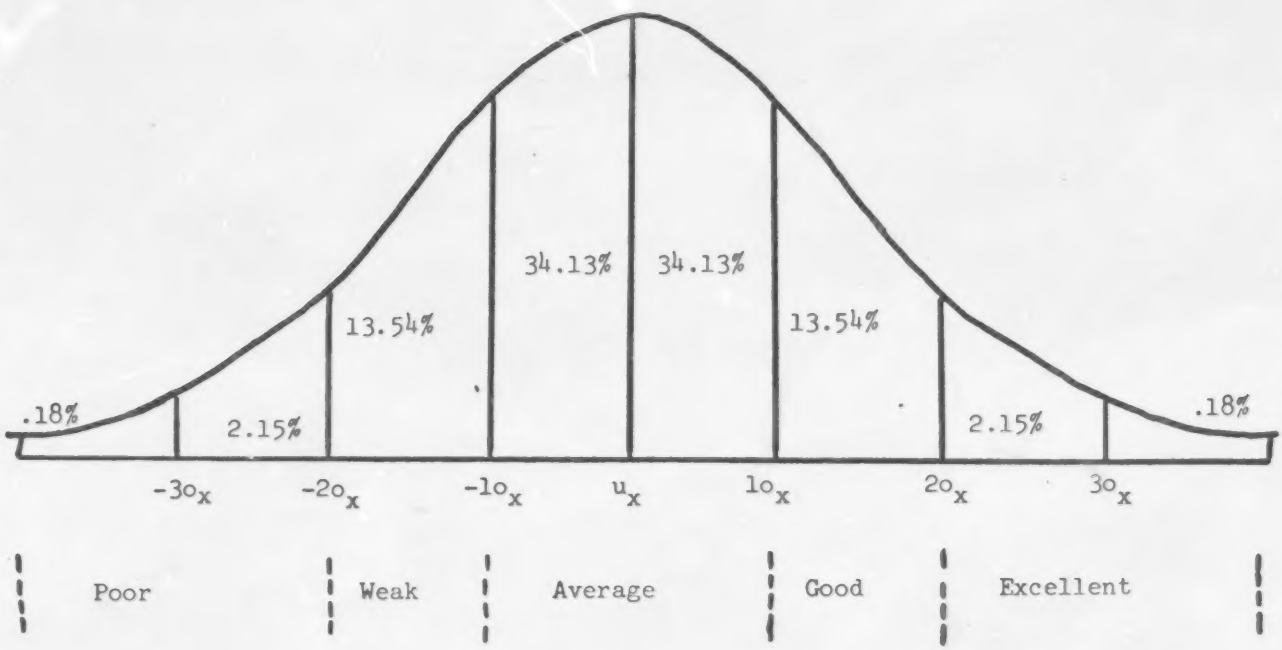


FIGURE 4.- RELATIONSHIP FOR TEACHER EFFECTIVENESS BALANCE



If those elements of "Teacher Knowledge" are firmly imbedded in the teacher, "Teacher Performance" will result in the manner by which that teacher implements that knowledge, within the limits of the materials, curriculum and supplies that have been placed upon her. For the purposes of illustration, I will stereotype all teachers into five basic evaluative classifications: Excellent, Good, Average, Weak or Poor, based on the normal percentage distribution in each area of the bell curve.

FIGURE 5 - NORMAL CURVE FREQUENCY DISTRIBUTION



We must assume that eight out of every ten teachers are at least minimally competent, and that nearly two out of each ten are weak or poor.

B. Influences of Educational Leadership on TCCISM

If the normal curve is indicative of teacher effective frequency, the educational leadership of the administrator is not a major consideration in teacher performance. Certainly it may increase or decrease teacher performance.

It should be emphasized, however, that more important than teacher-administrator rapport, inservice training or additional support that the administrator provides to the teacher, regardless of where he/she falls on the bell curve, is that any devised curriculum matrix, or other arbitrary standard that may be established for identifying teacher effectiveness, significant change of teacher performance will result only through the personal involvement/acceptance of that teacher to the intended behavioral modification strategy. If we accept the premise that the teacher must be open to change, and/or must possess basic professional skills before significant teacher effectiveness may be altered, we must accept that teacher knowledge, skills and actual teacher performance is more of a major variable in teacher effectiveness than is educational leadership. We may express this by the following formula!

> "Teacher Efficiency is equal to the sum of all Teacher's Knowledge/Skills/Attitudes plus the sum of all Teacher Support times the sum of any positive or negative Educational Leadership that has been provided."

$$TE = ([TK/S/A] + [TS])(\pm EL)$$

This formula takes into consideration the teacher's positive or negative perception/motivation that has been provided by the building administrator. If he uses threatening pressure to secure change in teacher effectiveness, the total change will most likely be negative. If that administrator was to use positive behavioral modification strategies, that the teacher accepts or agrees with, teacher effectiveness will be increased. Under these conditions, reinforcement of that behavioral strategy will result in even more positive teacher effectiveness. The results from the teacher's acceptance of this strategy based on her knowledge, skills, attitudes or the support she receives for her actual teacher performance, is based significantly more upon her personal perceptions and eventual acceptance of the strategy, than it does on the actual administrator's implemented behavioral modification strategy.

C. Components of TCCISM

The components of the TCCISM are structured to reinforce/expose the classroom teacher to that professional information that the teacher should possess for her to make a personal judgement on her effectiveness as a professional classroom teacher. Regardless of where she may be ranked upon the

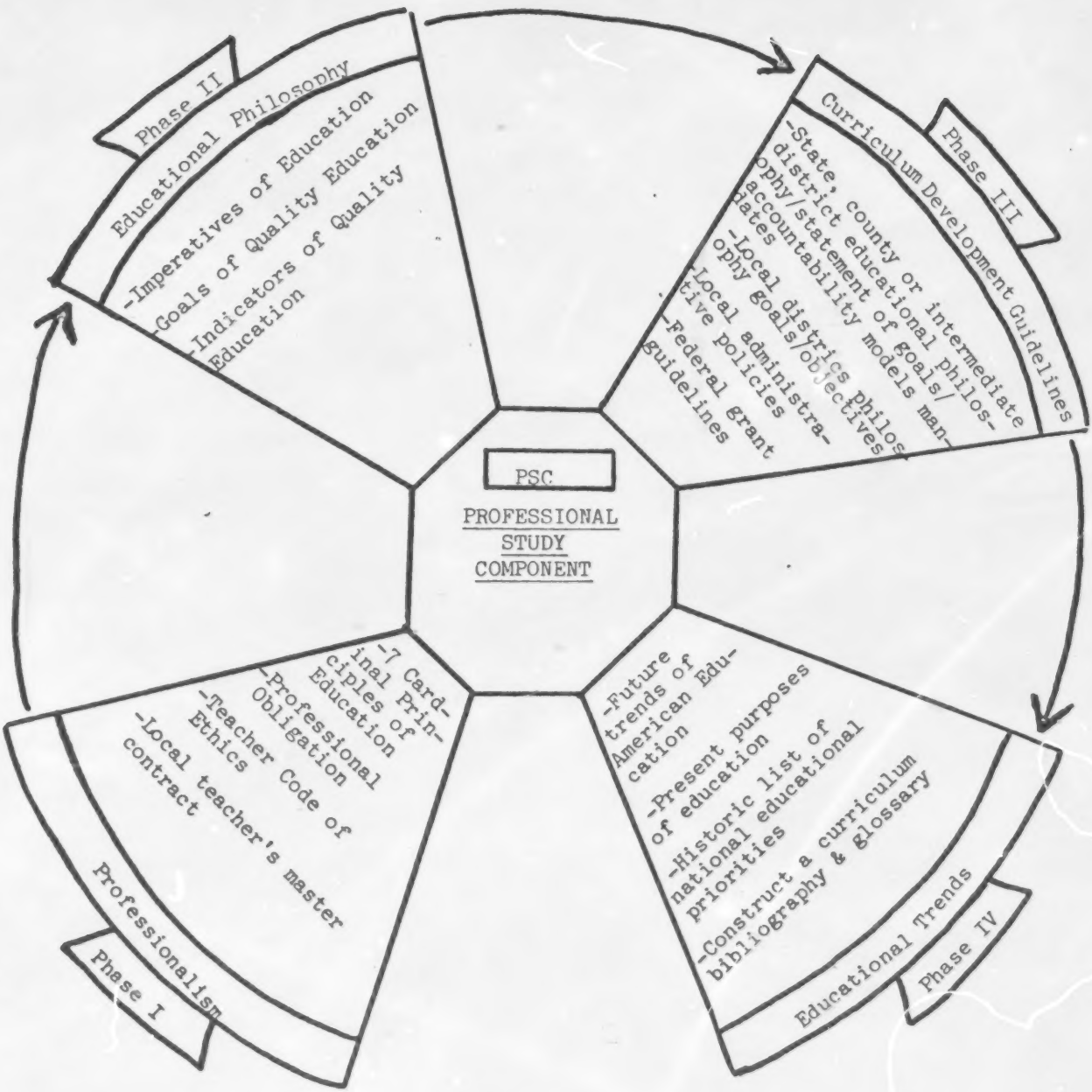
teacher competency continuum, either by herself or her evaluator, her future effectiveness in the classroom will more easily be influenced by her perceptions of herself, as viewed within the limits of the personal professional knowledge, skills and attitudes that she possesses. Therefore, the following areas of faculty study is of paramount significance to the overall curriculum which the faculty will eventually design. In-depth study toward these educational principles in faculty inservice sessions after school or during teacher release time will reinforce/expose the classroom teacher to those basic elements of education that the teacher "should possess".

1. Professional Study Component (PSC) (See Figure 6.)

The professional study is one component of the total TCCISM. All members of the faculty, have had varieties of college experiences and different qualities of teacher training. All possess various levels of professional skills, competency, and understanding of educational principles/philosophies/goals. This study is intended to provide the faculty with a common set of professional exposures, regardless what previous exposures/experiences they have had. The professional study is designed as an avenue to ensure that members of the staff have at least an equal awareness/exposure and hopefully, understanding of their professional responsibilities within those guidelines established by the State Department of Education and the local school board, and as a result of the historic evaluation of American education and it's present purposes and possible future trends.

We can most easily visualize the components, purpose and intent of the professinal study with the following diagram. All four major elements of the PSC are equal with no hierarchical order.

FIGURE 6 - PROFESSIONAL STUDY COMPONENT (PSC)



a. Professionalism Study Component - Phase I (Refer to Figure 6.)

The teacher must develop an understanding of how they perceive their role in education today. As a professional, regardless of the extent to which the school district teachers are organized (i.e., NEA and AFT), teachers must have a complete awareness of what they perceive their role to be. This is extremely important in the light of the 1966 federal court mandate allowing educators the right of collective-bargaining. Collective-bargaining has placed many limits upon teacher involvement in curriculum in most school districts, (i.e., extra pay for curricular work after school, or negotiated release time for curricular involvement). It is the wise administrator that openly involves his teachers in a study of the present master contract, to identify the limits which the master contract places upon teacher involvement in the curriculum studies, curriculum design and after teachers are actually in the new facility and implementing the curriculum decisions that will be formulated by the TCCISM and following curriculum development work.

The best method by which to insure professional involvement by the teachers in the stated studies and further curriculum design, is to have them list and openly discuss the following information separately and in the listed order.

Phase I

1. The 7 Cardinal Principles of Education[1*]
2. Professional Obligation[2*]
3. The Teacher Code of Ethics[3*]
4. The Local Master Contract[4*]

b. Educational Philosophy Component - Phase II (Refer to Figure 6.)

After the Professionalism Study has been completed and the entire staff has had an opportunity to discuss the above information from a common point of departure (the teacher compiled list), it is time to begin the second phase of the TCCISM.

The Educational Philosophy Study is intended to acquaint the teachers with the basic imperatives and goals of education and the indications that the teacher can use to identify actual quality education.

Listing and subsequent open discussion by the faculty members will expose all the teachers to those traits for which they will be designing their curriculum. (Refer to Chapter VII.)

The TCCISM studies are designed to stimulate each teacher's thinking, hopefully, to challenge her present teacher philosophy and attitudes for the more experienced teacher, and to act as a concrete set of principles by which the new teacher may build/add to her own professional philosophy.

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*See Attached Addendum

The following areas of study should be lised, added to, and openly discussed separately in this order:

Phase II

1. Imperatives of Education[5*]
2. Goals of Quality Education[6*]
3. Indications of Quality Education[7*]

c. Curriculum Development Guidelines Component - Phase III (See Figure 6.)

To ensure that any portion of the actual curriculum design, which will be completed at the culmination of this TCCISM, falls within the realm of administration/board approval, the faculty should study the following, obtain copies of the following information and carefully review it for (1) definite stated trends; (2) limitations and (3) recommendations contained therein.

Phase III (Refer to Figure 6.)

1. State, County or Intermediate School District Educational Philosophy/Statement of Goals/Models for Accountability/Mandates
2. Local Board of Education Philosophy/Goals/Objectives
3. Local Administrative Policies
4. Federal Project Guidelines

Information for item #1 can be obtained from your State Department of Education or your local county or intermediate school district administrators. A team of educators, comprised of faculty members and administrators might find it advantageous to visit these representative administrators to discuss their guidelines, manddates or various models they have/would like to implement on the local level. Discussion with local levels of education departments may eliminate state/county studies or information that will be requested in the future. These agencies, may have personnel that can provide you with additional advise and expertise which is not available in your local school district.

You should request of your superintendent, the local district's educational philosophy, goals and/or objectives. If these are not available, or have never been completed, you may recommend of the Board that this be done by the Board as a result of information gathered by TCCISM and during the actual development of the curriculum design.

A committee should request a set of administrative policies so that they may ensure the final curriculum design that is to be constructed for the new educational facility will fall within these policies. These should be discussed by the entire faculty with involvement of administrator representation.

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*See Attached Addendum

A committee should discuss, with the local administrator responsible for federal projects, any new programs that have proven successful or may fall within the eligible guidelines of federal money available for implementation of a particular type of curriculum innovation. If no such administrator is employed in the district, you might request of the superintendent to obtain educational advise from a State Department of Education official.

d. Educational Trends Study - Phase IV (Refer to Figure 6.)

As we live and work within our local school district, we often tend to become isolated from past educational trends that have made an important impact on our present day curriculum. To fully understand the past national educational priorities that have affected education, therefore having acted as catalysts for the present educational priorities we hold today, we must understand the cycle/evolution and influences that created these priorities.

Many of the societal, federal or educational pressures which were manifested in the past are still present, in some form or another. "The reformers in the field of education would probably drop most of their plans for the remodeling of public education if they had a better understanding of the failures of the past."[8] This quotation illuminates the need for a faculty committee to collect data that identifies historical trends in education, to critically analyze this data, and to have the entire faculty interpret and discuss the findings of this data. Most important for the faculty to scrutinize are the social pressures, conditions and influences that affected these historical trends.

Social Influences On The Public Schools

Social influences have greatly influenced curriculum design and content. The population of the United States was forecast, in 1968, to increase 3 1/2 times between 1900 and 1980. Although we have reached a zero birth rate, this increase directly affects the education systems of our country. Population movement from the cities to the suburbs mean that the suburb schools are becoming more densely populated and the cities are losing the taxes needed to maintain their facilities, personnel and programs. In 1959, we had the same percentage of functional illiterates (5 years or less of schooling), as we did college graduates. This million number was about 8% of the adult population. I recently ran a community-wide survey in Ypsilanti, my place of residence. Ypsilanti is about 40,000 persons, with three colleges, including Eastern Michigan University. Our city boundaries border Ann Arbor, Michigan, home of the University of Michigan. Even with the high percentage of college oriented persons/staffs, etc., we had 46% of all adults over 25 years of age that did not graduate high school. These implications to education certainly act as an influence upon our curriculum planning. What is so wrong with our program that we have such a high incidence of student drop-outs before the end of the 12th grade.

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[8]Travers, Robert M.W., An Introduction To Educational Research, (2d Edition, New York: Macmillan, 1964), p. 127.

Construction of large low cost apartment complexes influence the curriculum. The low rates bring in a large number of children to the school system, and usually to one or two elementary buildings. Normally these parents are not property owners. These apartments are usually built quickly during the good weather. By the time the apartments are fully completed in October, and people have moved into them, it is beyond the 4th Friday membership count, which is the most critical factor in our state aid formula. Thus, the school system receives no state aid for a large number of the occupants of these apartments, which are normally younger couples with school age children. Although these children must attend the school, finances for curriculum development is often curtailed as a result of a lower state aid total, yet a larger number of teachers must be maintained or hired. Unemployment and high student drop-out rates have moved us toward having to develop programs, such as career education.

The American family being the basic unit of society, influences curriculum in many ways. Increased divorce rates usually mean more geographic mobility for the child. He may be in 2 or 3 schools in one year. As many divorced mothers work all day, many family responsibilities are forced upon the schools. As nearly fifty percent of America's mothers now work, pressure is brought to bear for the schools to accept what used to be considered the normal family responsibilities (i.e., breakfast and lunch programs, health and sex education, value clarification programs, etc.). ADC parents have a tendency to expect the schools to act as other social agencies by keeping children for lunch. Society has dictated that certain materials and supplies must be furnished by the schools. College students and working mothers, dropping their children at school early in the a.m. and picking them up late in the p.m. insist that the schools should provide babysitting "services" before, and after, school for their children.

Society's new trend toward promiscuity, the "pill", pre-marital sexual relationships and unorthodox views on homosexuality bring unusually controversial influences upon the school curriculum and the classroom teacher. The issue of marihuana and liberalization acceptability toward students smoking typlifies the changing society.

Sociologically the family has experienced disintegration to a point where you will seldom find the full family sitting down to dinner together, sharing common discussions or experiences as an entire group. Our society is so complex today that a Saturday or Sunday will seldom, if ever, find the entire family at home together or spending leisure time together as a family unit. As the family shuns its responsibility to the family unit, society charges the schools with those same abdicated responsibilities.

The emancipation of women, racial equality and juvenile delinquency offer tremendous pressures upon curriculum development and design. More controversial issues, such as those that have divided our country (Vietnam, Watergate, the bombing of Cambodia), all have an impact upon the slow pace that most schools revise or alter curriculum.

The historic American family has lived, eaten, and played together. Now the role of the mother is weakened, as many parents work as soon as they can. Children often eat lunches at school, with neighbors, or with hired "black" babysitters. Fathers often belong to bowling teams, the Elks, and/or a poker club. The children have scouts, youth fellowship, sports, or recreational activities to occupy their free time. In the absence of the family unit, the school is viewed more and more as being the necessary unit to fulfill the voids created at home. The movement toward humanism in education (openness) as it relates to the affective domain would be valuable, and yes, even accountable. Society says that we must do a better job with the education of the "whole child".

Although Jaucks, Coleman and others claim that 70-80% of the success of students is related directly to the home and non-school environment, the demand that schools broaden their curricular offerings is still the greatest influence upon the curriculum planner.

Such insignificant groups to the general public, such as government appointed task forces and committees, have created new trends for curriculum and have established priorities that educators have still not attained enmasse. Documents, position papers and statements resulting from some of these groups include: The Cardinal Principles of Secondary Education, the Education Policies Committee recommendations of 1937, results of the White House Conference, Educational Policies Commission of 1961, Indicators of Quality Education, etc.

Other major influences on the curriculum were/are occupations, residence, income, education standards, opinions of others, the self-image, group prejudice, many economic forces, research, local pressure groups, mass communication and teacher negotiations. In our discussion of influences upon the curriculum national and international issues, current educational research and newly identified societal identified needs, all influence our national priorities and trends. The polarization of these past, present and future national priorities and trends will assist you with a more comprehensive understanding of what priorities you will establish, or have been established in your school district. You should certainly establish your own priorities and needs for your school district. It is suggested that you identify and study the following areas:

Phase IV

1. The historic list of past national educational priorities
2. The present purposes of education
3. Future trends of American Education
4. Construct a bibliography for curriculum materials and books

The "Past National Educational Priorities" should be listed by decade. It is suggested that in a teacher's meeting, the staff attempt to identify the pressures that affected the adoption of these priorities.

As you read the "Present Purposes of Education", attempt to identify the reason these were implemented. Are any of these pressures still in effect in your community?

As you have identified and discussed the past educational priorities and the present purposes of education, can you identify future trends in American Education for each decade of the next forty years? How many of those are applicable to your local school district, community, teachers and children? List these and discuss them individually.

The last step of Phase IV is to build a bibliography of curriculum materials. These should be ordered so that information for the remaining three components of the TCCISM may be completed in the future. These may be books, magazines or articles. Assistance for identification of bibliography and titles and sources may be obtained at the U.S. Department of Education, your nearest college or university, State Department of Education, national administrators association, local administrators or textbook representatives that your district normally does business with.

2. Child Development Study Component (CDSC) (Refer to Figure 4, page 37.)

The CDSC is an exceptionally important component of the TCCISM as it defines to the teacher the normal physical, emotional, social and mental development of the child. The study will collect data that will reflect, for the experienced teacher, what the normal characteristics of an elementary child are at the age of 7 or 10. It will provide the teacher with a profile of those characteristics that identify a "normal" middle school boy. The study will act as a review to the high school teacher of the importance of self-esteem and self-actualization to that student who she will be shortly attempting to build a curriculum for. She knows she must include opportunities for success in that curriculum, but does she really understand what elements of the affective domain must be present before the 11th grade student has the opportunity for success? Does the elementary, middle or high school teacher know what family or social influences are present in the students of the community....or is she building a curriculum for a different "average" student? If there is a high rate of absences in her class, or in her high school department, does she accept that she, or the department might not be meeting the needs of those youngsters?

The Child Development Study Component is designed to review for the teacher what the sequential developmental characteristics of the early childhood, the middle years, and pre-adolescence and adolescence are, and more easily identify the presence or absence of these characteristics. Regardless of the level which the school facility is being built for, or what aged children for which the curriculum is being designed, teachers of all levels should be inserviced to review: Those stages and developments that the child experiences, what his affective and psycho-motor needs are, or what the ever-changing social role is that the student lives each day in his peer and family environment.

Many of the problems which that teacher will deal with in the future are a direct result of the child's variance of these general hierarchical developmental needs, physical, social or mental developmental patterns.

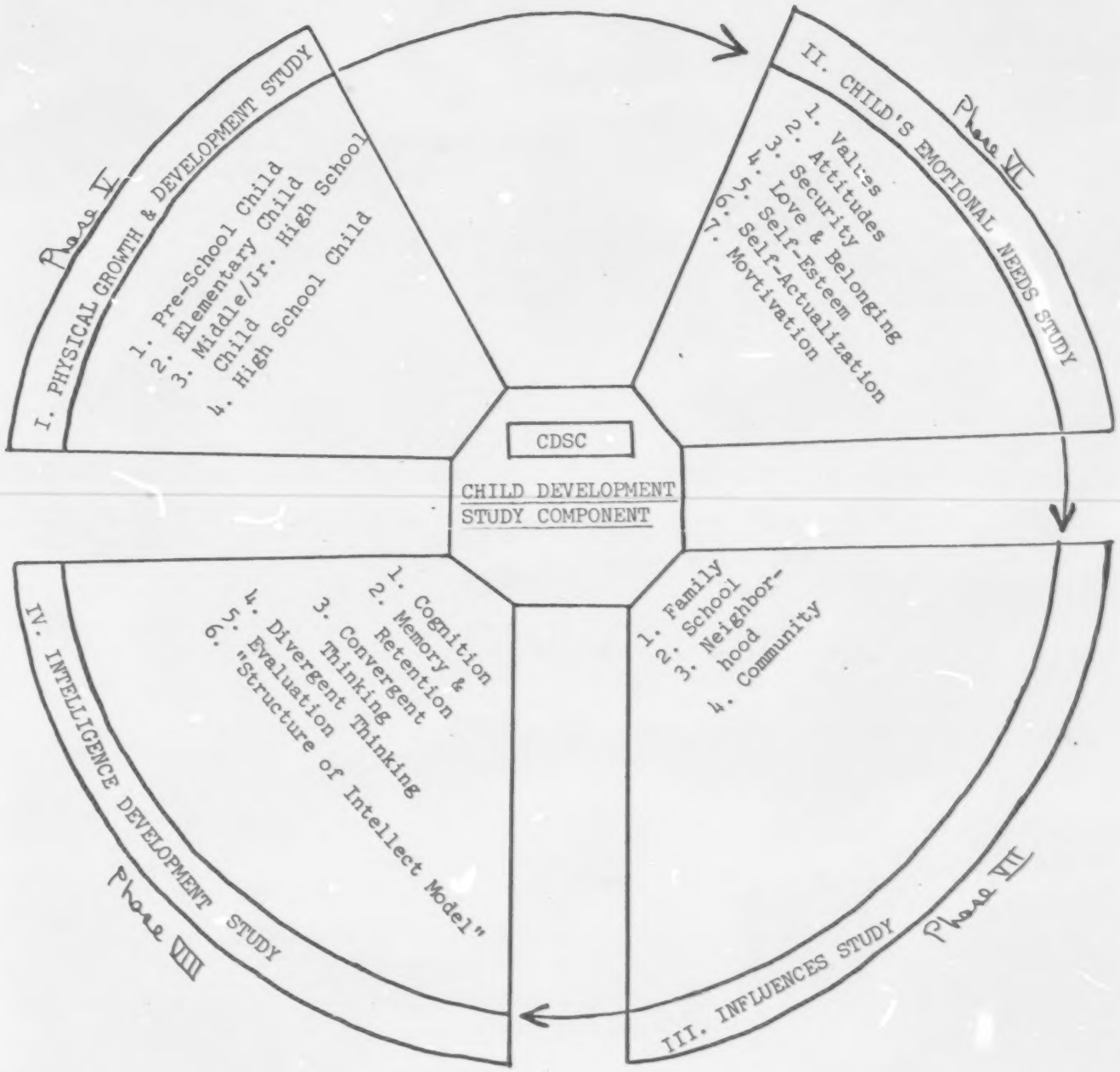
If she recognizes what the norm is, she can identify individual problems of the student and attempt to build a strategy within the curriculum which will more easily provide him the opportunity for success.

The Child Development Study Component is composed of four phases which should be completed by faculty committees during, after school meetings or release time inservice. The faculty should discuss these basic lists at inservice sessions, until majority agreement is reached upon the final listed items. In-service completion of this Student Study Component will provide the teachers with a more current understanding of the student, his needs, influences and developmental patterns. When the faculty is ready to begin the actual curriculum design for the new building, all teachers, young and old, new or experienced, will have completed the process of studying and discussing what their professional responsibility is. They will be more aware of what normal child development is, and will be professionally equipped to identify those unique students who have problems that might impede their learning.

The study of the developmental characteristics of physical growth, emotional needs, social influences and mental maturation are important to fully understand the entire individual and his relationship to learning, his reaction to his environment and his other interaction with other people. We must fully understand the basic sequential development patterns of the normal child before we may plan the curriculum process which will be his guidelines to learning.

The Child Developmental Study Component is more readily understood in the following diagram and explanation.

FIGURE 7 - CHILD DEVELOPMENT STUDY COMPONENT (CDSC)



a. Physical Growth and Development Study Component - Phase V (Refer to figure on page 37.)

"Even though the concept of development is fairly recent, the idea of the sequential nature of development that growth and development are gradual, continuous and sequential, and that developmental stages occur in a fairly orderly sequence - is probably the most universally accepted in education."[9]

Most research completed on the physical development of the child groups those characteristics into areas of study such as early childhood, the middle years, pre-adolescence, and adolescence. It is suggested that teachers reduce this to characterize the "normal" student of her grade level/age group. As this information is only a description to be used for the analysis of the individual student, you must remember that their is no clear-cut developmental age-break, or time, that these developments will occur. You may identify patterns, and certainly the developmental stages should be identified. Do not expect this growth pattern to occur at the same age for each child. More important than what physical characteristics that the child possesses at a particular age, is his stage of evolution and developmental patterns that evolve in a sequential order. It is assumed that all growth and development is sequential and develops from less to more mature, in a normal evolutionary pattern. Physical attainments follow cycles and plateaus.

Normal child growth will follow certain patterns and sequences, but at different speeds. Rapid physical growth is often accompanied by an even temperment or the child's restlessness. Puberty often brings new attitudes, interests and problems as a result of these physical changes. Deviations from this normal rate of physical development may produce social, academic or emotional problems for that child. The teacher should remember that individual differences are quite normal and numerous for the child. She must be knowledgeable of the normal physical growth patterns and be able to identify deviations from normal child development and growth. She must also remember that physical growth patterns/cycles will greatly influence the other areas of the Child Development Study Component. The experienced, master teacher is that person who understands fully the normal developmental sequences of physical growth and can identify variances from these, as they relate to the emotional needs, social influences and maturation of each individual child. In her prescription to provide learning experiences for that child she must be perceptive to fully understand the interrelationships of each of these factors and how they influence one another.

The faculty/committee should thoroughly review characteristics of physical growth in the following areas:

Phase V

1. Pre-School Child
2. Elementary Child
3. Middle/Jr. High School Child
4. High School Child

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[9]Taba, H., Curriculum Development Theory and Practice, (New York, Hartcourt Brace & World, Inc., 1962), p. 88.

Study of Phase V should be oriented toward those sequential patterns and stages of physical developments that naturally occur in a child in a continuum from pre-school to high school. Teachers should then attempt to identify normal stages of physical development for the students they teach so that a profile of "normal expected development" may be built for each grade/age level. Information on physical development may be obtained from "The Run About", Hilda Taba[10], Gesell[11], Hilgard[12], Martin and Stendler[13], Spitz[14], and Stoltz[15].

With the ever increasing multitude of printed research, new ideas and concepts in education, new profiles must be built identifying the physical characteristics and corresponding behavioral traits and patterns that the pre-adolescent and adolescent possesses. Understanding of the physical growth profile will assist the teacher in building future prescriptions for an individual student's learning patterns and learning modalities. With a clear understanding of these concepts, she can more easily identify any variance from the norms, thereby building a meaningful corrective learning sequence that will utilize a more effective learning modality for that child.

Individual maturation and physical development trends during the individual's school years are important to the planning of the content and process of learning. The cognative, affective and psycho-motor domains of the individual are developed in a logical, predictable pattern. If we accept the fact that the individual is the most important integral part of the curriculum and that the teacher-centered curriculum assumes that the teacher must fully understand the natural development norms for students, and how to prescribe for the process of the identifying of different learning modalities and personalities, then we must accept the fact that complete teacher understanding of personality development is of primary importance to the educational planning for a child. The Physical Development Study provides an investigation into the orderly sequence of the continuous and sequential growth and development of the individual child/student.

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[10]Taba, H., Curriculum Development: Theory and Practice, (Hartcourt, Brace & World, Inc, New York, 1962).

[11]Gesell, A., and Ilq, F.L., Infant and Child in the Culture of Today, (Harper, 1943).

[12]Hilgard, E.R., Theories of Learning, (Appleton-Century-Crofts, 1956).

[13]Martin, W.E., and Stendler, C.B., Child Behavior and Development, (Hartcourt, Brace and World, 1959).

[14]Spitz, R.A., "The Role of Ecological Factors in Emotional Development in Infancy", Child Development, (September, 1949).

[15]Stoltz, H.R. and Stoltz, L.M., Somatic Development of Adolescent Boys, (Macmillan, 1951).

Cognative motivation in the primary school depends to a large extent, upon the individual's ability to read. The child must have specific motor coordination for the eyes to function normally. Any irregularities in the movements, or transfer, of this function to the portion of the brain that interprets these symbols, will result in a learning disability. If the teacher does not have the knowledge to detect this disability, the child will develop a learning disability/problem, that may be manifested in future grades and most certainly, to a distillation of self-esteem in his futile attempts to compete academically with other children of his age/grade.

Historically we had attempted to identify irregularities of behavior as being a result of physical development.[16] Later (1940's), deviant behavior was explained more in the realm of emotional problems/deviances from the norm. The old addage of, "You can lead a horse to water, but you can't make him drink" applies most aptly to the emotional needs of the child. The best teachers can not force/coerce a student to assimilate what she feels the student should know. The child must be receptive to learning....he MUST want to learn. An emotional block, a learning disability, a lack of interest from the student, will result in a lack of cognative learning. "Emotional development affects mental growth because emotional factors facilitate, or block, such mental activities as language and reason."[17]

In some cases, emotional problems may impede physical development. When these physical developments are slow or faster than the child's peers, his social acceptance by the children may be impaired, thus developing one more emotional problem that the teacher must identify and compensate for within the curriculum and the classroom. As culture personifies certain desirable characteristics of individuals at all ages, those persons who do not coincide with the normal pattern of physical, cognative or social patterns of the day often manifest emotional characteristics that may impede the learning process.

In the light of the present emphasis on "humanism" in education today, the faculty should carefully study Phase II, "The Study of the Emotional Needs of Children," to more accurately assess those variables which affect the child's reaction to learning, his ego and his concept of his own self-worth/esteem.

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[16]Martin, W.E. and Stender, C.B., Child Behavior and Development, (Hartcourt, Brace and World, 1959).

[17]Taba, H., Curriculum Development: Theory and Practice, (Hartcourt, Brace and World, Inc., New York, 1962), p. 90.

b. Child Emotional Needs Study Component - Phase VI (Refer to figure on page 37.)

Phase VI

1. Values
2. Attitudes
3. Security
4. Love and Belonging
5. Self-Esteem
6. Self-Actualization
7. Motivation

(1) Values - Perhaps one of the most controversial issues that today's educator must face is that of what values should, or should not, be included in the curriculum or taught in the classroom. The teacher must judge for himself what societal and individual values should be emphasized in his teachings. In the mid-seventies, we have found increasingly divergent sets of values toward moral issues, patriotism, religion, ethics, politics, ethnic minorities, etc. Those societal values in a rural Alabama town may vary greatly from those in a rural town in Northern Michigan.

With the advent of highly sophisticated mass media, we find the individual continuously challenged with value issues of varying degrees, ranging from national political ethics to deep-rooted personal sexual values. The technological nature of the 1970's, the breakdown of the traditional family unit, the challenges of moral and sexual traditions and the drive for the individual to find his place in our increasingly more complex society, all illustrate a need for the responsible citizen to possess and exercise a personal value clarification sorting process.

If we accept Gutzels[18] two types of value classifications, "sacred values" and those he calls "secular values", we must assume that these conditioned assumptions are influenced by ever-changing variables and pressures of our present day society. The conflicts that exist in the value issues that are brought to our attention by the press, radio and T.V., continually challenge these values. Is McCaulley right or wrong in the Mai Lai incident? Should President Nixon not have accepted a tax deduction for the gift of his vice-presidential papers? Should we have fought in undeclared war in Vietnam? Should Daniel Ellsberg have been indicted for his exposure of the Pentagon Papers? The controversial conflicts inherent in these issues may not be readily apparent to the observer. They do illustrate, however, our shift and "questioning" of those sacred and secular values which we traditionally held in today's modern society.

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[18]Ibid, p. 221.

Although schools have a minor role in the development of values, present educational trends and court decisions indicate that the teaching profession must make themselves more aware of the value clarification process. Your faculty study committee should thoroughly identify and report to the faculty the entire value clarification process and its implications upon the students of your local community.

Some of the most recent research was completed by Krathwohl, Bloom and Masia[19] in their taxonomy which arranges a classification scheme in hierarchical order. These categories and subdivisions are as follows:

"1.0 Receiving (attending)
- 1.1 Awareness
- 1.2 Willingness to receive
- 1.3 Controlled or selected attention

2.0 Responding
- 2.1 Acquiescence in responding
- 2.2 Willingness to respond
- 2.3 Satisfaction in response

3.0 Valuing
- 3.1 Acceptance of a value
- 3.2 Preference for a value
- 3.3 Commitment (conviction)

4.0 Organization
- 4.1 Conceptualization of a value
- 4.2 Organization of a value system

5.0 Characterization by a value or value complex
- 5.1 Generalized set
- 5.2 Characterization"

Krathwohl, Bloom and Masia, in their taxonomy describe and theorize that at a low level, a person develops a belief that evolves to a commitment, or conviction. After the full conceptualization of that value and a development of an organized value system has been attained, the individual may reflect among these values and build priorities to be utilized into a life value structure.

If behavior is altered by a person's value system, then we must understand what that person's value structure is, and what it contains, before we can foster effective learning prescriptions or build a learning

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[19]Krathwohl, D., Bloom, B.S. and Masia, B., Taxonomy of Educational Objectives, Handbook II: Affective Domain, (New York, David McKay Co., 1964), p. 95.

environment which will be consistent with his value structure. If, on the other hand, we feel that a behavioral modification strategy should be designed to motivate learning, or to redirect behavior, the teacher must have the knowledge of how attitudes affect behavior, learning, and motivations before she can develop effective curriculum guidelines.

A teacher study committee should list on the form in Figure 5, numerous student values for students of the age group they teach. They should then attempt to identify what influenced each of these attitudes most directly, society, home, religion, peers, schools or the mass media.

(2) Attitudes - Historically, elementary education has placed a high value upon the cognative development of the child, to the exclusion of other aspects of personality development. Many modern educators have since made an impact upon the philosophy of "individuality" and the "uniqueness of each individual". For the first time in the history of public education, we now find that the individual and his feelings, attitudes and perceptions about himself are universally accepted as a fundamental premise from which the educational curriculum should be built. The writings of Montessori, Taba and Piaget, reports on evaluations of the British Primary Schools. Research from Niblett[20], Cottrell[21], Kluckhorn[22], Oliver and Shaver[23], and many others, have given us perimeters to begin to identify, for the first time, those feelings and attitudes that are now commonly accepted to be of primary importance to curriculum planning and design.

Using the form in Figure 6, a study committee should list as many attitudes as possible for each grade/age level. Each of these attitudes should be identified as positive or negative influences upon both behavior and learning.

This pre-school to 12th grade Attitude Profile will enlighten teachers to student attitudes which are normal for students of particular ages/grades. The teacher may then construct an attitude profile for any student she has identified, as a result of the completed teacher study on attitudes. This individual attitude profile will provide the teacher with a guide to assist her in identifying those children in her room that deviate from the general norm. Strategies may be developed by the teacher to strengthen, weaken, eliminate or alter the attitudes of the child so that he may have the benefit of the most recent research indicating those attitudes. This research may assist the child to reach his fullest academic and social success.

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[20]Taba, H., Curriculum Development: Theory and Practice, (Hartcourt, Brace & World, Inc., New York, 1962), p. 224.

[21]Ibid, p. 223.

[22]Berman, L.M., New Priorities in the Curriculum, (Merrill Publishing Company, Columbus, Ohio, 1968), p. 162.

[23]Ibid, p. 163.

FIGURE 8 - STUDENT VALUE PROFILE

Date

Age/Group

Teacher

Student Name	Value	INFLUENCES OF VALUES							
		Society	Culture	School	Home	Peers	Religion	Media	Other
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									
11									
12									
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25									

FIGURE 9 - STUDENT ATTITUDE PROFILE

STUDENT ATTITUDE PROFILE

Date

Age/Group

Teacher

Grade	Attitudes	BEHAVIOR		LEARNING	
		Positive Influence	Negative Influence	Positive Influence	Negative Influence

(3) Security - The study committee should investigate carefully the child's need to feel secure. Security for a pre-adolescent, or adolescent, may be a vital component to successful learning experiences. A lack of a feeling of security on the part of the student may establish psychological and mutual blocks that prohibit future academic and social success.

(4) Love and Belonging - The need for love and belonging is a basic human need which is necessary for a child's normal mental growth. It is most important in the early years of life when attitudes and values are being learned.

(5) Self-Esteem - We have learned only recently, how very important self-esteem is to the individual and his future success in school and his role in society. The child that feels good about himself, that feels he is worth something as an individual, usually reflects that self-worth in his classroom situation, his school work, and his social interactions.

(6) Self-Concept - Self-esteem is the worth that the child feels for himself. Self-concept is the reflection the child has of himself, his potenials, his skills and his opportunities to succeed. The self-concept is one of the greatest untapped resources we have not developed in today's child.

(7) Motivation - A child must be motivated before learning may take place. With the advent of numerous behavioral modifications and various contingency management concepts, the open concept, and the use of learning/interest centers, we are finding increasingly more effective ways to motivate the child.

c. Influences Study Component - Phase VII (Refer to figure on page 37.)

Phase VII

1. Family
2. School
3. Neighborhood
4. Community

It is interesting to note that Jancks[24] and other researchers, such as Jensen[25], Herndon[26], Kozal[27], Footlick[28] and Illich[29], have been extremely

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[24]Jencks, Christopher, Inequality: A Reassessment of the Effect of Family and Schooling in America, (New York: Basic Book, Inc., 1972).

[25]Jensen, Arthur R., "How Much Can We Boost I.Q. and Scholastic Achievement?" Harvard Educational Review, 39(1) 1-123; Winter 1969.

[26]Herndon, James, The Way It Spozed To Be, (New York, Simon and Schuster, Inc.,1965).

[27]Kozol, Jonathan, Death at an Early Age, (Boston: Houghton Mifflin Company, 1967).

[28]Footlick, Terrold K., "Inequality in America, A Problem to Vast for the Schools to Overcome," Carnegie Quarterly, 20(4): 1-7, Fall 1972.

[29]Illich, Ivan, Deschooling Society, (New York, Harper and Row, Publishers, 1970).

critical of the success of today's educational outcomes. "Jencks has attacked the conception that schools help the achievement of a more successful adulthood in terms of economic returns. Jensen has concluded that the schools can do almost nothing to increase intellectual potential. Herndon and company have demonstrated the ineptitudes of the schools in classroom management as well as their utter inability to achieve reasonable social interaction or an adequate level of self-development."[30] "Jencks suggests that the 'equalizing of the quality' of the elementary school would reduce the cognative inequality by about 3%, the high schools by 1% or less."[31]

Essentially, these writers are saying that very little opportunity for the student to experience success in the schools of America, can be contributed to the school. There are other, much more important factors that influence a child's success in the school setting. Phase III of the CDSC deals briefly with some of these influences:

1. The Family

As a child's foundation for his value system is formed by the fourth or fifth year of his life, nearly all major influences on that value system reflect conditioning from the family and home environment. His readiness for reading may depend upon the worth that the family places on that skill, or the number of reading materials that are available to the student in the home. The love and security that the child receives at home will be reflected in his emotional stability at school.

2. The School

The school and it's role in the IQ development is very limited, say many educators. Rather than attempting to raise IQ, the schools should identify their purpose in the community, their philosophy, goals and objectives, and attempt to fulfill the expectations established for them by society. Society's aims, as identified for the schools by W. Longstreet, are illustrated in the chart in Figure 7.

It is suggested that schools analyze behaviors in the schools and the manner in which they reflect upon the schools overall goals. The gallowing three-dimensional cube, as developed by Longstreet, provides a visual instrument that can be used as a tool to more clearly make that behavior analysis (refer to Figure 8).

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[30]Longstreet, Wilma S., Beyond Jencks: The Myth of Equal Schooling, (Association for Supervision and Curriculum Development, 1973), p. 16.

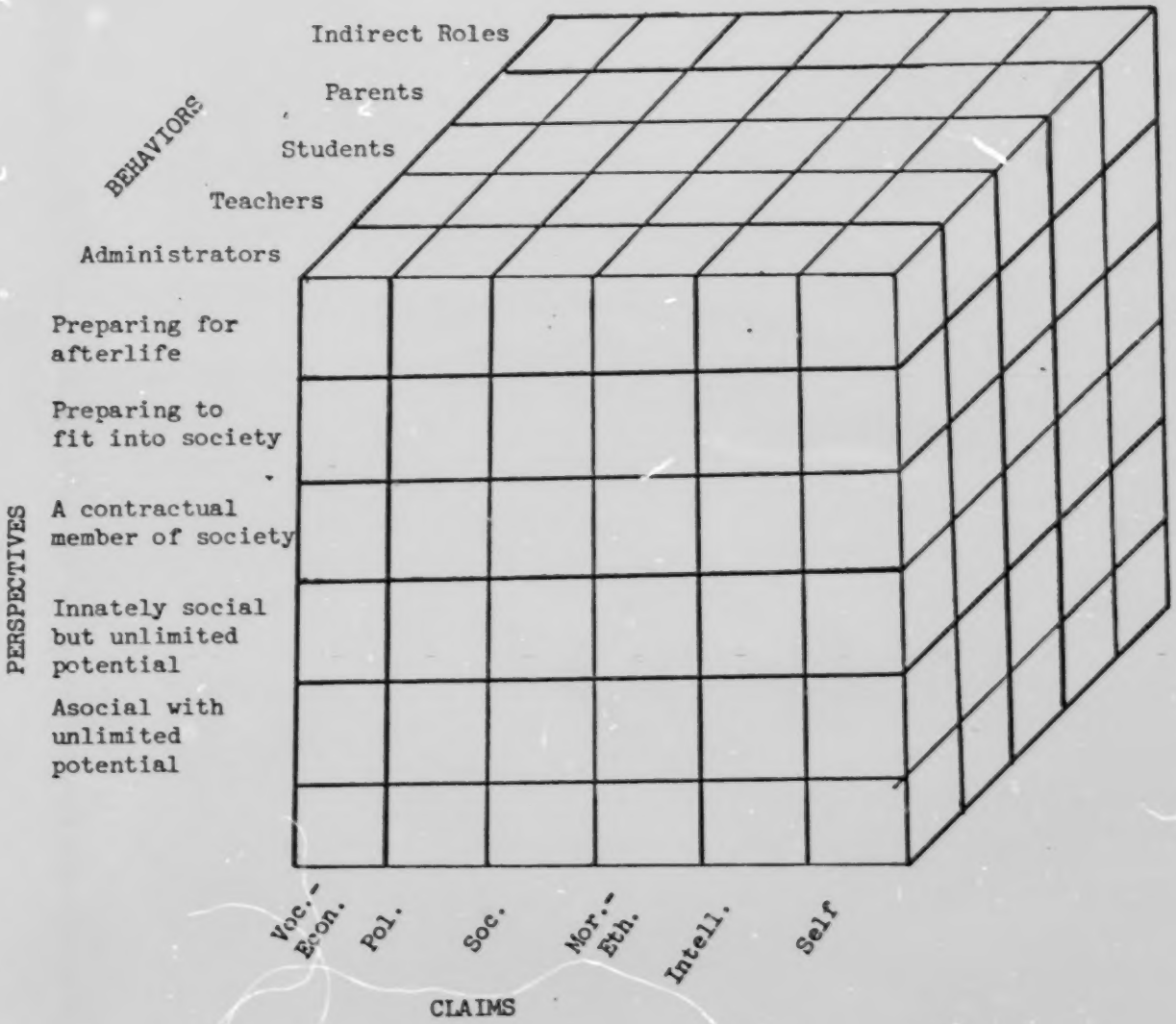
[31]Ibid, p. 4.

FIGURE V PERSPECTIVES OF MAN COMBINED WITH THE CATEGORIES OF EXPECTATIONS[32]

PERSPECTIVES OF MAN	SOCIETY'S CLAIMS ON EDUCATION					
	Vocational/ Economic Develop-	Political Develop- ment	Social Develop- ment	Moral/ Ethical Develop- ment	Intellectual Develop- ment	Self- Develop- ment
Man above all preparing for an afterlife; his essential qualities are predetermined but he may have free will to use them for good or evil.						
Man above all preparing to fit into the superorganic structures of society; his essential qualities are predetermined but his happiness depends upon his being able to fit into the structures of this world.						
Man above all a contractual participant of society--a change agent of society; he is innately social with a broad but not unlimited range of powers--understanding humanness is essential.						
Man innately social but of unlimited potential and in control of his destiny in this universe; flexible societal organization is vital to the true fulfillment of man's potential.						
Man a being of unlimited potential but not necessarily social--individual expression is more important than society.						

[32]Ibid, p. 21.

FIGURE II. A MODEL FOR THE ANALYSIS OF GOALS AND BEHAVIORS IN EDUCATION[32]



[33]Ibid, p. 25.

3. The Local Neighborhood

The local neighborhood environment will strongly influence the social development of the child. The atmosphere within which he plays; the peer group with which he associates; the behavior patterns he develops in response to peer neighborhood stimuli, a lack of playground facilities, supervision and planned leisure time opportunities; all of these influence the character and direction of the child's social and personal attitudes and motivation.

4. The Community

The community is a large influence upon the social development of the child. The "quality" of schools and their use within the community (i.e., Community education, year round schools, available facilities for recreational programs) are major influences upon the child's development as he grows older. Activities, such as recreation, boys clubs, girls clubs, scouts, church activities, etc., all offer more opportunity for supervised activities. As supervised activities denote a set of behavior guidelines and rules that are enforced, the child is not only exposed to, but must stay within those socia guidelines, therefore reinforcing acceptable social behavior to the student.

d. Intelligence Development Study - Phase VIII (Refer to figure on page 37.)

1. Cognition - To fully comprehend and plan for cognative development for the child in phase VIII, we must study Bloom's taxonomy of learning domains[34] (hierarchy of different cognative levels), to ensure the child's progress and development through the full cycle of what we call "learning".

"Level 1: Knowledge: Emphasis is on recall, whether specific or universals.

Level 2: Comprehension: Emphasis on the grasps of meaning, intent or relationships in oral, written, graphic, or non-verbal communication.

Level 3: Application: Emphasis is on applying appropriate principles or generalizations.

Level 4: Analysis: Emphasis is on the breakdown into constituent parts and detection of relationships of the parts and of the way they are organized. This level is often an aid to comprehension or a prelude to evaluation.

Level 5: Synthesis: Emphasis is on putting together elements or parts to form a whole not clearly there before the student performance.

Level 6: Evaluation: Emphasis is on values - making qualitative or quantitative judgements without criteria from internal or external sources and with standards."[35]

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[34]Bloom, B.S., Taxonomy of Educational Objectives: Cognative Domain, (David McKay Company, Inc., New York, 1956).

[35]Ypsilanti Dept. of Instruction, "Elementary Social Studies Instructional Objectives Plan", (Ypsilanti Public Schools, Ypsilanti, Michigan, 1968), pp. 5-6.

"For a long time controversies regarding the nature of intelligence have been raging on three issues: (1) whether differences in intelligence are hereditary or caused by environmental factors, (2) whether intelligence is constant or modifiable, and (3) whether it is a unitary characteristic or composed of a series of specific abilities."[36]

Most evidence, although not fully reliable, seems to indicate that intelligence is a product of interaction between heredity and environment. Therefore, intelligence may be altered.

2. Memory and Retention

Memory and retention are the ability to store information, and be able to use it at the individual's command.

3. Convergent Thinking

Convergent thinking is the type of thinking that is directed toward finding the correct answer/solution to a problem, based on what information/facts that are already known. The process is the usual and expected manner that the problem would be solved.

4. Divergent Thinking

Divergent thought is that process which includes a fluency with associations, words, concepts. It attempts to alter the known and to project new avenues of thinking rather than the normal, habitual forms of thought. Depth, scope and dimension of the problem may be changed and different solutions sought. This type of thinking is usually creative and lends itself to speculation or unusual solutions/answers. Getzel, Rogers and Maslow use different words for both convergent and divergent thinking.

5. Evaluation

Evaluation is the end process of whether specific known information/facts/concepts meets certain standards and whether the actual process and/or end product satisfy its goals.

6. Structure of Intellectual Model

"Guilford points out that all information comes to an individual in four kinds of content, (1) figural (or concrete perceptions and facts), (2) symbolic material, (3) semantic or verbal and conceptual meaning, and (4) behavioral, which evidently covers the social intelligence, social perception, or empathy toward the thoughts, feelings and attitudes of other people."[37]

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[36]Taba, Hilda, Curriculum Development, Theory and Practice, (Hartcourt, Brace and World, Inc., New York, 1962), p. 100.

[37]Ibid, p. 102.

It is suggested that reasoning may be highly regarded intelligence. Guilford proposes a "Structure of Intellect" that considers the various individual's abilities, the method by which the individual may gain the information that he uses for his ability to "think", and the product of the outcome of using this information in a thinking/problem solving situation.[38]

3. Nature of Learning Study Component* (Refer to figure on page 66)

All curriculum theory is based upon the theory of man and his behavior. Essentially there are two basic theories of man. One is that of "faculty psychology", which says that man has a mind, with all faculties developing as a result of practice and drill (mental discipline theory). Leaders in the field were W. Bagley, C. Judd, R. Hutchins, Rickover and Bestor. The other theory maintains that man is an energy system that reacts to other energy systems he is exposed to through his sense organs, motivations, stimuli, ability to reason, etc. (cosmos theory). This theory (behaviorism) proports that learning results largely from the enfironment, experiences and conditioning to which the individual is exposed. Leaders in the behavicrist school include Skinner, Wertheimer, Hull, Asch, Mowrer, Hilgard, Brumner, Kohler, Spence, Combs, Smygg, Holland, Gestalten, Koffka, Stacey and Levin. The behavioral school is divided into two opposing schools: Operant conditioning (reward and punishment); and gestalt (the individual and the process are more important than cognative mastery).

a. Learning Domain Theories - Phase IX (Refer to figure on page 66)

Phase IX

1. Cognative Domain
2. Affective Domain
3. Psycho-motor Domain

To understand the learning process we must reflect upon the work of Bloom (1956), Krathwohl (1964) and Dave (date not available). These men identified and have developed a continuum for the behavioral hierarchy of the natural evoluation of three basic types of learning, from the most simple to the most complex. Having been discussed in detail earlier, these "domains" and their descriptors from the most simple behavior to the most complex, bear repetition for emphasis to the reader.

(1) Cognative Domain (Bloom)[39]

(a) Knowledge

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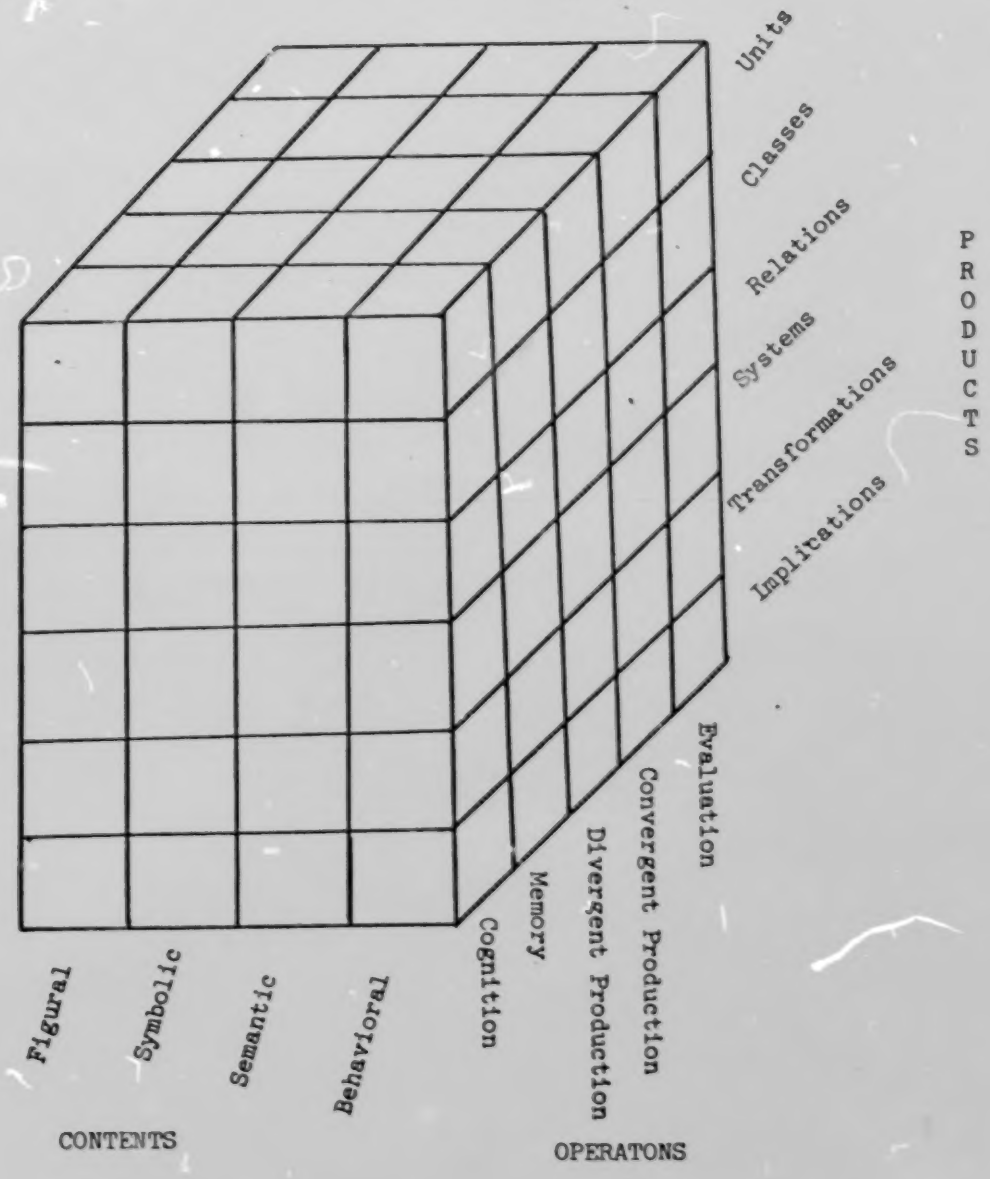
[38]Getzel, J.W. and Jackson, P. Creativity and Intelligence: Explorations With Gifted Children, (Wiley, 1926), pp. 102, 105, 106, 419.

[39]Bloom, B.C., Taxonomy of Educational Objectives: Cognative Domain, (David McKay Company, Inc., New York, 1956).

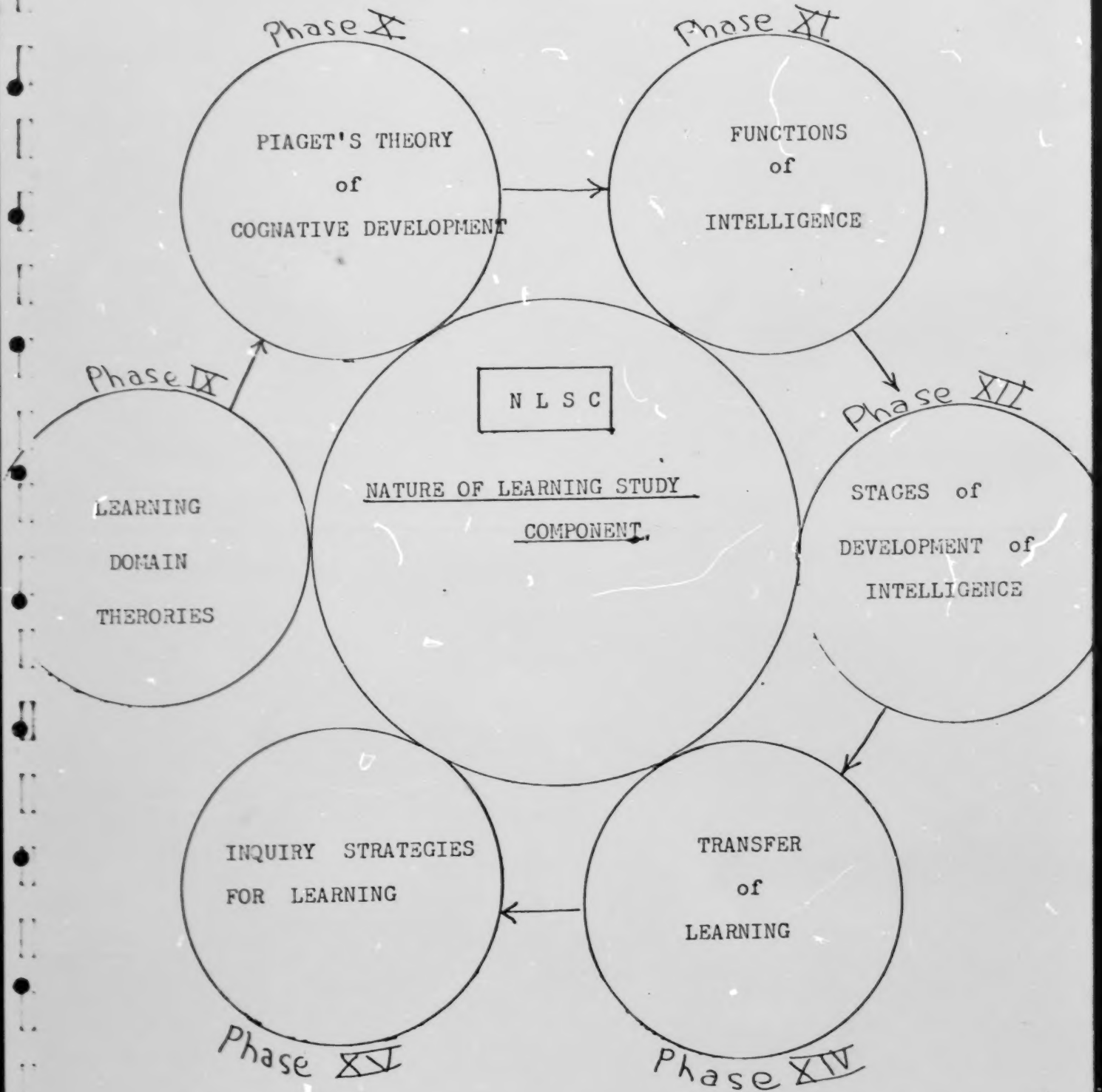
*The majority of information in the NLS component was selected from: Boughner, Wes, "Nova Curriculum Examination", (Ypsilanti, Michigan, 1974).

FIGURE 12. THEORETICAL MODEL FOR THE COMPLETE "STRUCTURE OF INTELLECT"[40]



[40]Taba, Hilda, Curriculum Development: Theory and Practice, (Hartcourt, Brace and World, Inc., New York, 1962), p. 101.

Figure 13
NATURE OF LEARNING STUDY COMPONENT (NLSC)



(b) Comprehension

(c) Application

(d) Analysis

(e) Synthesis

(f) Evaluation

(2) Affective Domain (Krathwohl)[41]

(a) Receiving

(b) Responding

(c) Valuing

(d) Organization

(e) Characterization

(3) Psycho-Motor Domain (Dave)[42]

(a) Imitation

(b) Manipulation

(c) Precision

(d) Articulation

(e) Naturalization

Mefessel, Michael and Kirsner developed an Instrumentation of the Taxonomy of Educational Objectives that further divides Bloom's and Krathwohl's taxonomies into lesser objectives by the listing of the taxonomy classification, examples of infinitives and direct objects.

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[41]Krathwohl, Bloom, Masia, Taxonomy of Educational Objectives: Affective Domain, (David McKay Company, Inc., New York, 1964).

[42]Dave, R.H., "Psycho-Motor Domain", (Department of Curriculum and Education, National Institute of EDucation, New Delhi, India).

b. Piaget's Theory of Cognative Development - Phase X (Refer to figure on page 66)

Phase X

1. Four Major Periods in the Development of Knowledge
2. Boughner's Composite of Piaget's Theory of Cognative Development Classifications

"Although there are several divergent theoretical positions concerning mental or intellectual development presently on the scene, the theory which is today having the most widespread impact on both psychological and educational thinking and which is most relevant particularly to the principles of progressive education is Jean Piaget's Theory of cognative development.[43]

(1) Piaget broke the development of knowledge into four major periods:

(a) The period of sensory-motor intelligence (birth-2 years old)[44]

(b) The preoperational period (2-7 years old)[45]

(c) The period of concrete operations (7-12 years old)[46]

(d) The period of formal operations (12 years old - adolescence)[47]

Piaget feels there must be a sequential evolution in the development of knowledge. The cognative process is a continual development and evolution stemming from the previous cognative structures. A child must attain all previous structures before he may attain the next stage of evolution:

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[43]Overton, W.F., A New Look At Progressive Education, (ASCD, Washington, D.C., 1972), p. 88.

[44]Ibid.

[45]Ibid.

[46]Ibid.

[47]Kamil, C. and Radin, N., A Framework For Preschool Curriculum Based On Piaget's Theory, (Ypsilanti Public Schools, Ypsilanti, Michigan, 1968).

2. Boughner's Composite of Piaget's Theory of Cognative Development Classifications[48-51]

Socio Emotional*

(a.) Sensory-Motor Period

(1) Sucking
(2) Looking
(3) Hearing
(4) Grasping

(b.) Preoperational Period

(1) Stage I - Graphic Collection

(a) Dependence
(b) Inner Controls
(c) Interaction (Quantity)

(2) Stage II - Non-Graphic Collection

(a) Interaction Quality
(b) Confident in School

(c.) Concrete Operations

(1) Stage III - Classification

(a) Achievement Motivation
(b) Curiosity

(d.) Formal Operations

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[48]Piaget, J., and Inhelder, B., The Early Growth of Logic in the Child, (Harper and Row, N.Y., 1964).

[49]Piaget, J., Six Psychological Studies, (Random House, N.Y., 1967).

[50]Piaget, J., The Language and Thought of the Child, (The World Publishing Company, Cleveland, 1965).

[51]Kamil, C., and Derman, L., The Engelman Approach to Teaching Logical Thinking: Findings From the Administration of Some Piagetian Tasks, (Ypsilanti Public Schools, Ypsilanti, Michigan, 1969).

*Includes information from all footnoted sources contained in "b. Piaget's Theory of Cognative Development - Phase X".

Perceptual-Motor Development*

(a.) Gross Perceptual-Motor Coordination

(1) Walking
(2) Jumping
(3) Climbing

(b.) Fine Perceptual-Motor Coordination

(1) Cutting paper with scissors
(2) Drawing line between 2 lines

Cognative Objectives*

(a.) Physical Knowledge

(1) Acting on objects
(2) Observing results of actions
(3) Systematizing the results of actions

(b.) Social Knowledge

(1) Indices
(2) Symbols
(3) Signs (Language)

(c.) Logical Knowledge*

(1) Logico-mathematical operations

(a) Classifications

1. Graphic collections
2. Non-graphic collections
3. Classification

colors
shapes
sizes
farm animals
clothing
foods
pieces of furniture
etc.

(b) Seriation

1. Uncoordinated small series of 3 or 4
   a. Colors
2. Perceptual seriation
   b. Sizes

*Includes information from all footnoted sources contained in "b. Piaget's Theory of Cognative Development - Phase X".

3. Operational seriation
   c. Qualities (i.e., soft handedness)

(c) Numbers

1. Neither correspondence nor conversation — numbers
2. Correspondence without conversation — colors
3. Both correspondence and conversation

(2) Spatio-temporal Operations

(a) Spatial Reasoning

1. Shapes
2. Sizes
3. Body Scheme
4. Reading Readiness Activities

(3) Temporal Reasoning

(a) Before - After

d. Representation

(1) Index Level

(a) Perceiving
(b) Constructing
(c) Imprinting

(2) Symbol Level

(a) Imitation
(b) Make believe
(c) Onomatopoeia
(d) Construction of 3D models
(e) Making and recognition of objects in pictures

(3) Sign Level (Language)

(a) Imitation
(b) Dialogue

c. Functions of Intelligence - Phase XI (Refer to figure on page 66)

Phase XI

1. Native Potential
2. Motivation
3. Environmental Stimulus

*Includes information from all footnoted sources contained in "b. Piaget's Theory of Cognative Development - Phase X".

The function of intelligence is based upon three variables: (1) native potential, (2) motivation and (3) environmental stimulation.[52]

(1) Native Potential - Native potential is that capacity for an individual to learn and to use this learning toward the process of reasoning. Most animals can "learn". The process beyond learning is that of utilizing that learned information/condition and then, by the trial error method, being able to apply this information toward the search for a new "hypothesis and insight". The utilization of multi-information towards a new hypothesis is what we call "reasoning". The average human can utilize more multiple learning sets than can an animal.

(2 Motivation - Regardless of the motivation in the learning environment, no learning will occur if the participant does not wish to take advantage of it. Intelligence may be hampered by many personal conditions, such as the lack of a desire to learn because of a personal dependency or a passive/apathetic approach toward experiences and stimulation. Intelligence may be hampered by extreme fear/anxiety feelings. Lack of self-concept, self-worth or repeated failures may provide guidelines for the individual to fail to develop his potential intelligence, thus his cognative functioning is less. Generally, we find a low motivation factor, in terms of the desire to learn, in lower and working class families as compared to those in the middle class.

(3) Environmental Stimulus - The environmental stimulus provides an atmosphere for the individual within which factors of that environment may create an opportunity for exposure and stimulus to conditions within it. A society of farmers will provide more environmental stimulus for the "natural life" abilities, rather than those of a highly technical nature. Koffka advocated that each individual has a "unique" behavioral environment that provides him with separate inherited abilities in existence, ready to be matured. If they live in an environmental stimulus that provides for this exposure, his native intelligence and the recurring exposure to that particular stimuli will result in a higher ability/IQ in that content area.

"Assuming that the degree of actual exposure to a content area is a function of the amount of motivation and degree of environmental stimulation, Miner suggests the following equations to be used for extreme cases.

a. High actual exposure + high native potential = high ability
b. Low actual exposure + high native potential = low ability
c. High actual exposure + low native potential = low ability
d. Low actual exposure + low native potential = low ability[53]

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[52]Taba, Hilda, Curriculum Development: Theory and Practice, (Hartcourt, Brace and World, Inc., New York, 1962), pp. 103-104.

[53]Ibid, p. 105.

d. Stages of Development of Intelligence - Phase XII (Refer to figure on page 66.)

Phase XII

1. Stage I - Sensimotor
2. Stage II - Concrete Operations
3. Stage III - Conceptual Thought

Jean Piaget and Barbie Inhelder began to investigate, review and analyze intelligence and thought. They investigated intelligence as a mental activity, not an absolute hypothetical entity. Piaget's investigations and studies led him to believe that the human starts as an organism of sensori-motor movements. A person's interaction/reaction to objects within his immediate environment becomes more complex as intelligence increases. Thinking is possible only after language, and a new set of mental patterns and organizations begin.

(1) Stage I - Sensimotor

The first of the three basic evolutionary stages of intelligence is the development of the sensory-motor intelligence. At this time the individuals coordinate their sense impressions and movements. The child is attempting to correlate experience and action. The child is aware of little else around him and he views objects only as a function of his senses.

(2) Stage II - Concrete Operations

The child now is building concrete patterns and operations of reflective grouping of objects. This is accomplished in three steps: (1) pre-conceptual symbolism (the child sees the world as generalizations), (2) intuitive thinking (he can see only from a narrow, egocentric view. He begins to perceive unrelated whole groupings. Any internal feelings are still mixed-up with external stimulus.), and (3) concrete operations (he can think while manipulating objects and representing those objects. He has the ability to internalize data and solve a problem in his head, without having to use motor activity to prove his result. He can now see abstract relationships if they are represented by physical concrete objects before him. This period lasts from about 2 to 11 years of age.).

(3) Stage III - Conceptual Thought

Conceptual thought or "formal operations" reflects intelligence, formal thought and reasoning. The student can think utilizing abstract symbols and can deal with hypothetical situations/problems. Reversibility (seeing objects as entities that can change size and be brought back to the original size, or that quantity of an object can change), is obtained and informal grouping relationships may be perceived. His thought process is very clear and related variables are not confusing; as they don't prejudice his thought process.

e. Transfer of Learning - Phase XIII (Refer to figure on page 66.)

Phase XIII

1. Automatic transfer
2. Identical content transfer
3. Drill transfer
4. Generalization transfer
5. Method of instruction transfer
6. Cognative process transfer

Transfer of learning may be positive or negative. Successfully completing twenty algebra problems may be a positive transfer of learning, however, the dislike for the discipline of algebra may be a negative transfer of learning. It is the school's responsibility to produce as much positive transfer as possible. There are, however, many ideas as to how transfer really takes place. Let me explain briefly, three of these theories.

(1) Automatic transfer - This is the theory that transfer naturally happens in areas such as Latin, math and philosophy. The training of math in the mind will provide the individual with a positive transfer so that this abstract math reasoning may be applicable in other areas of "life situations", or knowledge.

(2) Identical Content Transfer - The Thorndike and Woodworth[54] studies demonstrated that there is not general transfer of learning from regular training of the mind or from studying specific subjects. Transfer will take place only if there is identical content, or in the training process.

(3) Drill Transfer - Major principles, such as spelling and math can best be understood by repeated practicing of these principles. This drill provides a positive transfer of the principle to the individual.

(4) Generalization Transfer - It was found that certain transfer theories, in areas of the cognative and affective domains, were fairly successful, others were not. This led to the theory that abstract principles were held significant transfer of learning only if those principles could be put into practice. The combining of theory and practice seemed to provide much better learning transfer.

(5) Method of Instruction Transfer - Research indicates that specific methods of instruction for a specific purpose may ensure transfer. Other studies indicated that when the individual studied principles underlying specific processes, the transfer was more stimulating and productive. This was more true if students were aware of ways they were to use these principles in the future.

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[54]Thorndike, E.H. and Woodworth, R.S., "The Influence of Improvement in One Mental Function Upon the Efficiency of Other Functions", (Psychological Review, 8, 1901), p. 22.

(6) Cognative Process Transfer - The cognative process assumes that meaingful learning of the organization of experiences and responses can be transferred more frequently than can the information that is transferred by rote memory.

"These studies provide fairly conclusive evidence that the ability to transfer learning is achieved not by studying a particular subject, or by specific drill and rote learning, but rather by emphasis on cognative principles applied either to methods of learning or to the understanding of content, and on ways of learning that stresses flexibility of approach and that develop an alertness to generalizations and their application to new situations. Positive transfer, therefore, depends on both 'how'and 'what' an individual learns.[55]

f. Inquiry Strategies For Learning - Phase XIV (Refer to figure on page 66.)

The content, scope and sequence of learning, as outlined by Hilda Taba[56] merit mention here. Taba developed a number of inquiry strategies for learning. She views four levels of content of learning:

1. Mastery of specific facts and processes - low level of learning
2. Basic ideas and principles
3. Concepts
4. Thought systems and methods of inquiry - high level of learning

She points out that the coverage (scope) of content is difficult because there never seems to be enough time for the teacher to properly introduce or teach that content. She feels there are basic steps and procedures to teach for the transfer of knowledge and application of the content by the student. She also outlined objectives to assist with the procedure of teaching content of a subject. She developed theories and strategies for the sequence of learning (deduction and induction).

4. Current Educational Research Study (CERS) - Phase XV (Refer to figure on page 66.)

Phase XV

1. Committee Structure
2. Procedures for Completing Study
3. Study Areas

a. Committee Structure - A committee is formed, composed of individual teachers, teachers committees, administrators, local parent citizens and central

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[55]Ibid, p. 125.

[56]Taba, Hilda, Curriculum Development, Theory and Practice, (Hartcourt, Brace, World, Inc., New York, 1962), pp. 174-181.

administration curriculum-support personnel. The committee will be composed of sixteen subcommittees, each researching one specific topic.

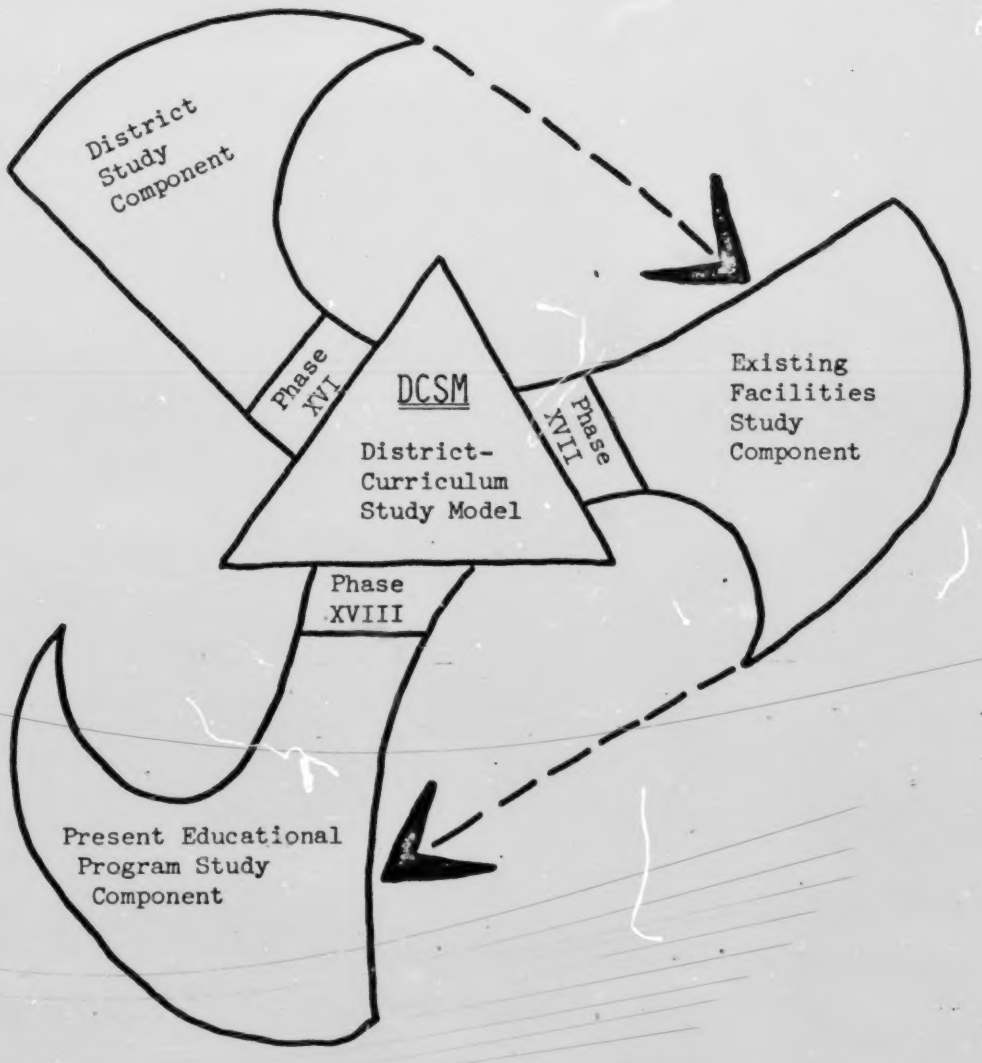
b. Procedures for completing CERS - The purpose of this phase XV is to collect research data, information, articles, etc. for each of the sixteen listed study areas. A time-line should be developed by the administrator/committee chairman, to ensure that each report will be submitted on time, typed and distributed to all faculty members by a pre-established date. Each committee should present a brief oral report on their findings, to the faculty/committee for their reactions, All sixteen sub-committees will be working at the same time.

c. Study Areas

(a) Coleman Report
(b) Fleishman Report
(c) Janck's Report
(d) Various Types of Student Groupings
(e) Pupil-Teacher Ratios
(f) School Organizations & Philosophies
(g) Classroom Organizations
(h) Instructional Techniques
(i) Staffing Design
(j) Utilization of Time Per Day/Year
(k) Classroom Strategies
(l) Learning Characteristics
(m) Influences Upon Characteristics
    1. The Individual
    2. The Peer Group
    3. The Family
    4. The Community
    5. The Physical Evironment
    6. The Social Evironment
    7. The School Building
    8. The Classroom
    9. The Teacher
    10. The Educational Environment
    11. Impact of Present Technology on the School and in the classroom
    12. Future Technological Trends in Education
(n) Learning Disabilities
(o) Legislative Implications to Education
(p) Technological Implications to Education

Figure 14

DISTRICT-CURRICULUM STUDY MODEL (DCSM)



Chapter VII - District-Curriculum Study Model (DCSM) (Refer to figure on page 77.)

I. Relevance of Completing Data For The DCSM

The District-Curriculum Study Model* is composed of three major studies: (1) The District Study Component, (2) The Existing Facilities Study Component and (3) The Present Educational Program Study Component. These three needs assessment studies are designed to provide the teachers with an opportunity to view their own school system as a total entity, rather than through the normal narrow perspective of only their individual school or classroom. An understanding of the overview of the total school district, average pupil-expenditures, class ratios and qualifications of all teachers will provide meaningful data for the rationale they use to design their own facility and curriculum.

The study of various organizational patterns, educational philosophies, present programs and materials, classroom strategies and types of learning characteristics presently in the school district will give the teachers an opportunity to set up visitations and to analyze district data carefully, based upon their inservice they received during phases I-XV of the Teacher Centered Curriculum Inservice Study Model (TCCISM). This analysis is a practical opportunity to utilize this TCCISM knowledge they recently learned in previously discussed areas.

The study of the present existing facilities, their room sizes and specific special needs are an opportunity for the teachers to identify what facilities are presently in the district, what the average room sizes are, and what deficiencies are present in other facilities within the district. The collection of this data provides the teacher with a closer concept of actual space requirements and sizes, so that when they actually begin to build their building specifications (after their curriculum has been designed), they will have a realistic concept of "size" as they relate to their curriculum design and the educational specifications.

II. District Study - Phase XVI (Refer to figure on page 77.)

A. Committee Structure - Two committees should be formed. One committee should be composed of the same number of teachers as there are schools in the district. Each committee member is assigned one school to review. A liaison from each school (principal, assistant principal or his designate) should be contacted to act as a liaison for gathering the following information: Per/pupil expenditures, teacher pupil ratios, a time study for the present utilization of the facility, types of student services and a list of the learning opportunities available to students. Teachers, students and parents should serve on this committee.

* Refer to District Curriculum Study Model (DCSM)

The second committee will be composed of only three teachers. As much of the information they will gather is of a confidential nature (i.e.: attainment of teacher degrees, average building salary costs), it is suggested that these people be carefully chosen. This committee will also get the following information from each other K-12 building in the district: Number of teachers in the building, number of hours for each teacher beyond their BA degree, total number of years of experience in each grade level at each building, number of males and females at each building and grade level, a judgement of the instructional philosophy of each teacher (i.e.: open, self-contained, etc.), travel that has been completed by each teacher and the number of years they lived overseas.

B. Procedure - Each of these two committees will design instruments so that everyone is collecting exactly the same information. A liaison should be appointed by each building principal. The questionnaire/survey should then be typed and reproduced. The committee member should personally take the instrument to the liaison, via the principal. It is that person's responsibility to ensure that the survey is collected on time. Each committee member will help construct a master chart of the responses, so that a matrix may be completed showing all of the same information and one final master recapitulation sheet. The final matrix should be typed, reproduced and distributed to all schools.

C. Areas of Study - The following areas should be investigated using the previously explained committee structure and procedure as a guide. You may desire to add, alter or subtract on this list, depending upon the variables you wish to investigate. This information, averaged for each school and the district will provide the committee and administration with a basis for the equality of staffing the building, selecting of teachers, and information for averages for each building and the district:

1. District per/pupil Expenditures
   a. Pre-School
   b. Elementary
   c. Jr. High or Middle School
   d. High School
   e. Other
2. Teacher-Pupil Ratio
   a. Pre-School
   b. Elementary
   c. Jr. High or Middle School
   d. High School
   e. Other
3. Time Study for Present Utilizations of Facilities
4. Types of Services and Learning Opportunities Presently Available for Students
5. Teachers
   a. Salary Averages per Building
   b. Number of Teachers

FIGURE 15 - FACULTY PROFILE SURVEY

Date

Building/Schools	Per Pupil Expenditure	Capital Outlay Last Year	Teacher-Pupil Ratio	Number of Teachers	B.A. Degree	Attainment of M.A.	Attainment of Ed. Spec.	Attainment of PhD.	Average number of years teaching exper	Number of males	Number of females	Number of blacks	Number of whites	Number of other minorities	Number of countries traveled	Number of countries lived in
Boyne Elem.																
Washington Elem.																
Wagner Elem.																
Forest Elem.																
East Middle																
Sun Middle																
High School																
Etc.																
Etc.																

c. Degrees
d. Number of Hours Beyond Last Degree
e. Number of Years and Grade Level/Subject of Experience
f. Number of Males, by Grade Levels
g. Number of Females, by Grade Levels
h. Use a Variety of Instructional Techniques
i. Travel Abroad
   (1) 1-5 Countries
   (2) 6-10 Countries
   (3) 11-30 Countries
   (4) 21-40 Countries
i. Lived Abroad (at least 10 months)
   (1) 1 Country
   (2) 2-4 Countries
   (3) 5-More Countries

III. Existing Facilities Study - Phase XVII (Refer to figure on page 77.)

A. Committee Structure - The same committee that was established to complete the District Study Component will complete this study on existing facilities in the school system.

B. Procedure - When the committee is distributing the District Study Component to the liaisons at each building, they should request the blueprints of the building from the principal. If these are stored in a central administration office, however, the building principal will know where they may be located. There are individual plans for each building but be sure to get the current set, as many buildings have had additions or alterations made. Review the plans and write in the necessary data on a grid, somewhat like the matrix you made for the District Study data. While the building liaisons are completing the data for your district study, you may complete this information on the size of rooms, storage room, identification of special rooms, etc. When you return the plans to the building principal, you should take the recently identified data with you and view some of the rooms, so that you develop a conception, if you don't already have one, of how large a 20'x45' room is and what its characteristics are. You can pick up the District Study on the same trip to the school. Talk with the liaison about any problems, questions, or comments you have with relation to either of the studies. The Existing Facility Study information should then be compiled, averaged and copies distributed to all faculty members.

C. Areas of Study - The following areas of study are guideline items for your committee to investigate. Items may be added or deleted from this list depending upon your situation/objective:

1. Number of buildings in your district
2. Number of self-contained classrooms in each building
3. Number of teaching stations in each building
4. Present size of gym in each building
5. Present size of teaching rooms in each building

6. Present size of parent-teacher conference room
7. Present size of teacher preparation room in each building
8. Present size of library
9. Present size of music room in each building
10. Present size of art room in each building
11. Present size of speech correction in each building
12. Present size of areas for each special education program in each building
13. Present size of sociologist/counselor in each building
14. Present size of nurse facilities in each building
15. Present size of testing area in each building
16. Present teacher storage space in each room in each building
17. Present student storage space in each room in each building
18. Present custodial storage space in each building
19. Present principal's office storage space in each building
20. Present general office storage space in each building
21. Present supply storage space in each building
22. Present P.E. storage space in each building
23. Present music storage space in each building
24. Present art storage space in each building
25. Present hall storage space in each building
26. Present size of display area in each building
27. Present size of hall display area in each building
28. Present enclosed display area in each building
29. Present size of playground in each building
30. Present size of kitchen space in each building
31. Present seating capacity in each cafeteria in each building
32. List other available spaces and sizes in each building
33. Present number of lockers in each building
34. Present number of boy's lavatories in each building
35. Present number of girl's lavatories in each building
36. Present number of mixed lavatories in each bulding
37. Present number of teacher's lavatories in each building

IV. Present Educational Program Study - Phase XVIII (Refer to figure on page 77.)

A. Committee Structure - The Present Educational Program is the largest, most time consuming of all the studies which are conducted during the designing, construction and utilization of a new school facility. The entire faculty, volunteer parents, administration and students (in the secondary schools) should be working members of this committee. The principal should act as chairman. The committee as a whole should give direction for the construction of any data collecting instruments that are to be utilized for the Present Educational Program study. A group of 2-6 committee members are responsible for the collection of this data and for transferring that information onto a large wall-sized chart, to generate an overall district picture of the present educational district programs.

B. Procedure - After the data-collecting instruments are developed, the committee members are assigned specific schools. They meet with members of the faculty of that school. During that time they will interview teachers and have them complete whatever information-gathering instruments they have to distribute. Some basic forms have been suggested for some items, (i.e.: #15,16,19,20,21,22). Some of this information may be gathered from your curriculum coordinator, rather than bothering the principal or teachers for it. Committee members should carefully mark all questionnaires/surveys with an identification code to identify whether the information should be gathered from the principal, central administration or teachers.

The following list will provide your staff with a fine understanding of what programs, materials, organizational patterns and technqiues are being presently utilized in the school district. In later curriculum planning phases this will provide you an immediate source of who you should inquire of the value of certain programs, or which classroom must be visited to view a specific teaching method or program. As this phase is extremely important, be sure to carefully gather this information for each teacher and each building. A large wall chart (20'x20'x6') should be used as a master chart, with all data being transferred by each subcommittee, to that chart.

C. Areas of Study - The following areas of study are listed as the types of data your committee should investigate at each school. Smaller versions of suggested instruments are shown with many of the areas:

1. Types of administration school organizations
2. Types of building philosophies
3. Types of grouping strategies
4. Types of grade level patterns
5. Types of instructional patterns
6. Types of present staffing strategies
7. Types of classroom strategies
8. Existing per pupil ratios
9. Availability of A.V. equipment per teacher
10. Availability of supplemental materials
11. Availability of basic materials for each mandated course of study
12. List special education programs/services
13. List special programs (i.e.: Art, Music, P.E.)
14. List of pilot programs in district

15. Length of school day

a. Teacher - Pupil Contact Time	Per Day	Per Week
(1) A.M.		
(2) A.M. Recess		
(3) Lunch		
(4) P.M.		
(5) P.M. Recess		
(6) Middle School Class Periods		
(7) High School Class Periods		

16. List Board Adopted Subject Areas/Texts

	Present Publisher of Basal Materials	Amount of Time Per Day	Time Per Week
a. Math			
b. Reading			
c. Spelling			
d. Grammar			
e. Science			
f. Social Studies			
g. Career Education			
h. Value Clarification			
i. Health Education			
j. P.E.			
k. Music			
l. Art			

17. List special education alternatives
18. List organized alternative options for learning
19. Graph use of various classroom strategies
(By number of teachers normally utilizing the strategy

	Frequency of Use in Elem.	Frequency of Use in Jr. H.	Frequency of Use in H.S.
a. Group Discussion			
b. Problem Solving			
c. Gaming Techniques			
d. Simulation Games			
e. Self-Evaluations			
f. Role Playing			
g. Learning/Interest Centers			
h. Language Encounter			
i. Activity Sheets			
j. Value Analysis			
k. Drill Sheets			
l. Seminars			
m. Lectures			

		Frequency of Use in Elem.	Frequency of Use in Jr.H.	Frequency of Use in H.S.
n.	Demonstration			
o.	Case Studies			
p.	Lab. Exercises			
q.	Socratic Lesson			
r.	Inquiry			
s.	Discovery			
t.	Debates			
u.	Community Resources			
v.	Individual and Group Work			

20. Identify characteristics of learning in classroom by the number of teachers utilizing these characteristics

		Elem.	Jr.High/Middle S.	High Sch.
a.	Motivation			
b.	Feedback			
c.	Reinforcement			
d.	Discrimination			
e.	Individual Progress			
f.	Generalization			
g.	Transfer of Learning			
h.	Student Centered			
i.	Teacher Centered			

21. Do teachers test for the following:

		Elementary	Jr. High/ Middle School	High School
a.	Knowledge			
b.	Comprehension			
c.	Application			
d.	Analysis			
e.	Synthesis			
f.	Evaluation			

22. Do teachers plan for: (by the number of teachers)

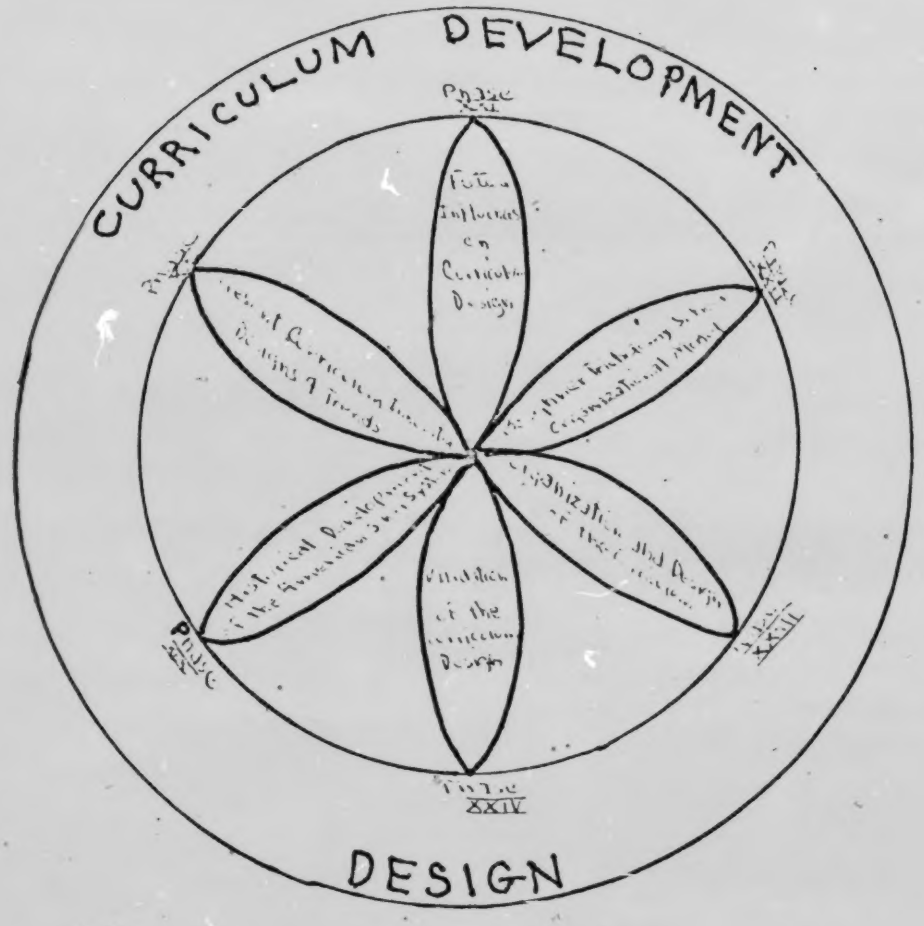
		Elementary	Jr. High/ Middle School	High School
a.	Broad Objectives/ Goals			
b.	Behaviors/Ideas			
c.	Methodology			
d.	Intended Outcome			

23. List special education programs
    a. Number of teachers
    b. Number of self-contained rooms
    c. Number of teaching stations
    d. Number of students involved

24. List and identify alternative paths of learning
    a. Within the classroom
    b. Within the schools
    c. Within the district
25. Identify the various classroom strategies that are utilized
    a. Within the classrooms
    b. Within the schools
    c. Within the district
26. Existing Supplemental materials (list each subject)
    a. Within the classroom
    b. Within the schools
    c. Within the district
27. Existing AV equipment
    a. Within the classroom
    b. Within the schools
    c. Within the district
28. Existing AV materials
    a. Within the classroom
    b. Within the schools
    c. Within the district
29. Existing Equipment

Figure 16

CURRICULUM DEVELOPMENT DESIGN MODEL (CDDM)



Chapter VII - Curriculum Development Design Model (CDDM) (Refer to figure on page 87)

The Curriculum Development Design Model is the most important model of the three models that comprise the "Utopian Teacher-Centered Curriculum Inservice Study Design Model" (UTCCISDM). The faculty will sit as a committee-of-the-whole, during which time half-day workshops will cover the following material taught by a building administrator, a team of administrators or a college professor from the Department of Instruction, College of Education from a near-by university. These groups of inservice training sessions will include all the information in phases XIX, XX, XXI and XXII of the CDDM.

I. Historical Development of the American School System - Phase XIX (Refer to figure on page 8

A. "Of all those who came to America during the early period, the Puritans who settled in New England contributed most of that which was valuable for our future educational development, and established in practice principles which have been adopted generally by our different states."[57]

The curriculum of today has evolved through many phases, each phase resulting from a need, or from society. The earliest elementary schools began in 1647 and were ungraded until 1848, when the first graded school was established in Quincy, Massachusetts. Their curriculum consisted of reading, writing, arithmetic, spelling, catechism, prayers and hymn singing. It was in the 1890's that the primary school evolved as we know it today.

The earliest secondary schools were those established to prepare young men for college. These Latin grammar schools, established in 1635, were academically oriented and the curriculum courses would coincide only with those offered in college. The academy was established in 1750 for those students not entering any of the professions. In 1821, in Boston, the first "modern" American high school was established for students that did not intend to enter college. By the end of the nineteenth century, however, the high school had become very college oriented.

In 1909 the junior high school was developed. The curriculum was composed of elementary and high school courses, with the express purpose of meeting the needs of the students. In the late 1960's the new concept of the middle schools was becoming popular. They emphasized the exploration and experimentation strategies and attempted to expose the student to many interest and subject areas.

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[57]Cubberley, Elwood P., Public Education In The United States, (Boston: Houghton Mifflin Company, 1934), p. 14.

B. The 1918 Commission on the Reorganization of Secondary Education of the NEA, reported that the purpose of secondary education was to prepare the student for adult life. The Seven Cardinal Principles of Secondary Education[58] were written by this committee. They are:

1. Health
2. Command of fundamental processes
3. Worthy home membership
4. Vocational training
5. Citizenship
6. Worthy use of leisure time
7. Ethical character

In 1937 the Educational Policies Commission developed a set of objectives for education.[59]

1. Self-realization
2. Human relationships
3. Economic efficiency
4. Civic responsibility

In 1952 the Ten Imperative Educational Needs of Youth were drafted by the Educational Policy Commission.[60] In the twentieth century, elementary schools have stressed three basic curriculum philosophies:

1. Subject-centered curriculum
2. Child-centered curriculum
3. Society-centered curriculum

II. Present Curriculum Innovation Designs and Trends - Phase XX (Refer to figure on page 87.)

A. Innovations

1. CAI - Computer Assisted Instruction is one of the most important innovations to appear on the American educational scene in the past two decades. The implications of CAI are tremendous. As Westinghouse, and other programs, develop continuums of objectives and criterion-referenced test items, we become more aware of the tremendous impact CAI could make on student achievement in the future. As we move closer toward the development of accountability models, we

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[58] Commission on the Reorganization of Secondary Education, "Cardinal Principles of Secondary Education", (Washington, D.C., U.S. Department of Interior, Bureau of Education, Bulletin 1918, #35, 1918), p. 10-11.

[59] Educational Policies Commission, The Purposes of Education in American Democracy, (Washington, D.C., NEA, 1938), p. 47.

[60] Educational Policies Commission, Education For All Youth: A Further Look, (Washington, D.C., NEA, 1952, p. 216.

will move closer to the adoption of CAI programs. They are presently quite expensive, but just as other individualized programs lowered their prices throughout the years (i.e., IPI), we are finding that CAI programs are already drastically reducing the costs for their program materials.

2. Performance Contracts - Performance contracts were first used in Gary, Indiana. Although there are still some schools using these, the trend is much more toward adoption of CAI programs.

3. MBO - Management By Objectives take many shapes and forms. Minneapolis has been using one concept for four years now. MBO came to us from industrial models and it has taken some time to effectively utilize them in the school setting. The end result of educational MBO designs measure intangible commodities, not measureable products as do the industrial models. MBO has been used to more clearly define job responsibilities, visible end results of previously stated objectives, and an outline with which to accomplish long and short range educational objectives. The process demonstrates how everything the administration sets up as an objective can be measured using visible written indicators of success.

4. PPBS - The Planned Program Budgeting System is a systems approach to identifying costs for specific objectives within the school budget (i.e., reading at the 4th grade). The implications to educators are great. In Michigan, all school districts have been ordered to switch to a state adopted form of PPBS. Having used PPBS in the past, as a superintendent, I feel that there is no conflict with the use of PPBS and the arguement that the "child's well-being and inner development"[61] may be jeopardized.

5. Year-Around-Schools - There are many pilot projects for the year-around-schools. The most noteworthy of these being the 45-15 plan, where school facilities are utilized throughout the year on a 45 school days in session - 15 school days off plan. The concept originated to fully utilize the facilities of a district throughout the year, rather than having them sit vacant during the summer months. Within two years after implementation of the 45-15 plan in my wife's school district, a survey indicated 210 out of 216 teachers were in favor of the change, with a similarly high ratio of acceptance from the community at large.

6. Simulation Strategies - Many teachers, especially "open concept" teachers in self-contained classrooms have adopted the use of simulation strategies within their classrooms. High school teachers have long utilized role-playing as an acceptable teaching technique. When I was principal of an overseas American high school of 2800 students, we had a full semester, 9th grade social studies class, that utilized one simulated game of "war", drawn on the floor of the classroom. There are many commercial simulation games on drugs, ecology, career education, etc.

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[61] Rubin, L.J., Curriculum and Instruction Study Guide, (Nova University Press, Fort Lauderdale, Florida, 1972), p. 182.

7. Learning Centers - The introduction and exposure of learning centers is one of the best ways to "open-up" a self-contained classroom. Learning centers may be based on student interests, skills, subjects, holidays, and often areas of the affective domain. Many colleges and institutes are designed with only the express purpose of introducing the teacher to the development of learning centers within the classroom. Most often the materials and content of the learning centers are changed and replaced with new information, displays, skill sheets, etc.

8. Vouchers - The voucher system is a method to provide alternatives to the parents as to where their children will attend school. There are many variations of the model. Unfortunately, the voucher system has not been accepted well by the public, although there are many new programs being attempted each year.

B. Trends

1. Accountability - Accountability is one of the most controversial topics we can find in the field of education. "The notion of accountability is not new. It dates back to biblical times, and up to 1898 it showed traces of application to education in 19th century England."[62] Accountability is the idea of holding schools/teachers answerable for student learning outcome. It may assume any one of a number of designs, each being unique from all others. With the increased cost for education, the public is demanding that the schools ensure a quality education for their children. With the large number of students that leave our schools without the benefit of attainment of normal 12th grade cognative skills, the community is asking, "Why?" Many state departments are building accountability models based on performance objectives. Michigan uses an annual state assessment test where the students can be judged against students of the same grades in other parts of the state.

2. Humanism - The humanist movement in the US has resulted almost as a "whiplash" to the academic movement in the "50's", when the emphasis shifted to science. The humanist rejects behavioral objectives and curriculum rigidity. With the thrust toward "open education" and "informal education", we find the individual becoming the focal point of the curriculum. Self-direction, social interaction, the self-concept, the success-failure syndrome and the individual's self-worth all become of primary importance within the classroom.

3. Career Education - One of the newest trends in education has been the acceptance of career education within the total K-12 school environment. The concept of "career awareness" in the elementary schools, "career exposure" in the middle schools, and "career development" in the high schools, has created a

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[62] AASA National Academy for School Executives, An Administrator's Handbook on Educational Accountability, (AASA, Arlington, Virginia, 1973), p. VII.

massive volume of commercial career education materials that have appeared on the market. Most of these programs are virtually useless and have no real continuity from K-12. The career-education movement was indirectly a result of the high drop-out rate of our high school students.

4. Value Clarification - With the rapidly changing society of the 1970's, the supreme court rulings of the past decade, the breakdown of the family structure, Watergate, racial issues and excessive drug usage of our school-age students, the need for a concentrated effort to clarify our rapidly changing value system became evident. As we move deeper into the humanist thrust in education, we find that young people in today's society need to identify, review and form a value base of their own. As a result of our mass communication and the permissiveness within our society, the need for a system of value clarification for today's students become apparent. Value clarification gets the student to arrive at his values based upon three areas: (1) prizing, (2) choosing and (3) acting. There are many fine programs, textbooks, supplemental materials, simulation games, filmstrips, tapes and programmed kits on the market that deal directly with the subject of value clarification.

5. Open Education - Open education differs widely from the traditional self-contained classroom in both its classroom environment and its philosophy. Evolving from the open education system in England, open education provides the learner with a number of alternatives within the classroom. The students may engage in activity interest-centers in both groups, and individually. The interests of the student are both self-directed and teacher-persuaded. The teacher plays a key role in knowing each child extremely well and assisting him through his cognative and affective development. The individual, development of his self-concept and self-worth are both critical objectives of open education. Self-discipline, individual responsibility and sensitivity to others are all goals which the teacher is constantly aware of. This is the ultimate in humanistic education. The teacher is still accountable for the board-directed curriculum programs within the classroom. She creates the environment that enhances individual freedom and responsibility through her own awareness and agreement of the open education philosophy. Most open education has been developed at the primary-aged youngsters but it could be applied toward students of all levels. "Open education" and "open space" differ widely in their philosophy and intent. "Open space" is a characteristic of a facility, whereas "open education" is the characteristic of an environment.

6. Community Education - Community Education is a concept of utilizing all of the school and community's facilities and resources to provide adult education, enrichment and leisure time activities/classes for all citizens of the community from "birth-to-death". The inspiration having been derived from the philanthroper, Mott, in Flint, Michigan. The concept provides the full utilization of school facilities on a twenty-four hour day, seven days a week basis, all year round. The communities that have implemented this concept have seldom had millage problems, as the city normally has an extremely positive feeling toward the schools and reflects this feeling during millage elections.

7. Behavioral Objectives - Behavioral objectives have, in the past few years, created quite a controversy, debate and a number of writings about it.[63,64] Objectives became synonomous with the term "educational accountability", which in itself has been quite a controversial item. Some of the arguements against behavioral objectives are: (1) they limit classroom creativity, (2) the use of objectives is to definitive for education, and they are not general enough to accomplish all educational goals, (3) they are not democratic, (4) they are too specific and limiting in their use, and (5) they do not deal with the causes of behavior. Objectives have been written about so often, that the evaluator doesn't have to spend a great deal of time specifying objectives. All persons utilizing behavioral objectives in any way should contribute to their design and development.

8. Informal Education - I view "informal education" as an outgrowth of "open education". Informal education is just what is purported to be "informal". Classes are not highly rigid and structured. The extension of the open education concept provides for a sense of worth for what is being taught. Most education goals state that, one of the major responsibilities of schools is to teach the basic skills. Informal education accepts that goal as being valid but insists that equally important is the goal of fostering certain basic attitudes toward a subject.[65]

9. Black Studies Programs - As a result of an identity awareness and pride, blacks have insisted upon black studies being included in the normal curriculum on all levels. Black and white educators have realized that understanding of one's cultural history, gives a person a sense of pride. Pride is a positive feeling toward one's self. Studying for a black child about great black men in history raises his self-concept and instills in the student a sense of importance and pride in his race. White students study black history to acquire a sense of empathy for black culture and to understand the role of the black man in our society. It is hoped that through black study programs in elementary classrooms throughout the country, attitudes toward racism will become more realistic as these children become young adults. In a society where racial issues are as openly discussed as they are in the United States, all children should have the exposure to the causes and effects of the racial issues that the courts have ruled upon, and society must learn to live with. Only through exposure and discussion at a formidable age, will the adults of tomorrow have the opportunity to live in peaceful harmony, without the effects of bias resulting from ignorance and prejudice.

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[63]Gagne, Robert M., "Behavior Objectives? Yes", Educational Leadership, (29:394-96, 1972).

[64]Kneller, George A., "Behavioral Objectives? No!", Educational Leadership, (29:397-400, 1972).

[65]Williams, Rosemary, "Reading In The Informal Classroom", Open Education, (Bantam Books, New York, 1972), pp. 137-145.

10. Free Schools - The growth of the free schools movement has been considerable in major cities such as New York, Massachusetts and Los Angeles. These schools are a type of alternative schools that "all share a common rejection of the traditional school pattern; routine evaluation, competitiveness, grouping by ability, large classes, a pre-determined course of study, and teacher control."[66] There are two basic free school movements; one embraces A.S. Neil philosophy of freedom works (mostly white middle class); the other emphasizes the school as a political environment in which to prepare the next generation for the active transformation of society.[67] Tuition is charged in these schools, and tuition is relatively small. A large number of schools last only a year or two before they close as a result of financial problems.

11. Drug and Health Education - School boards throughout the United States have acted, as a result of needs of society, to establish health and drug programs in the normal curriculum. Both the high teenage drug usage in the United States, and the trend on college campuses and in many communities in the country, toward legalization of marihauna, have turned both the drug programs and the health programs into major issues of controversy. "Sex education", a component of most health programs, has been extremely vulnerable to public scrutiny and discussion. Drug programs came under very heavy public criticism in 1973, after major studies from the University of Michigan claimed their research strongly indicated the incidence of teenage drug usage increased as a result of drug education programs. Both health and drug programs are becoming parts of the normal school curriculum, both locally and on many state levels. The impetus to include VD in the school curriculum has resulted from the epidemic proportions of venereal disease among our nation's youth.

12. Metrics - As a result of the federal investigation into the U.S. converting over to the metrics system, many school districts have already integrated metrics programs into their math and science programs. In the State of Michigan, no math textbooks may be sold after 1976 without metrics being an integral part of the text. As we are one of the very few countries that do not utilize the metric concept, many companies (GM & Ford) welcome the slow implementation of metrics into the U.S., as this will increase the world-wide market for their products. The education market is at this time, becoming flooded with poor quality metric programs, kits, etc. There are some fine publications ("Metric News") and programs (Nystrom Metric tapes and filmstrips) on the market, however.

13. Competency Based Teacher Education is a teacher training program that specifies particular teacher competencies that must be acquired. Competency

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[66] Rubin, Dr. L.J., Curriculum and Instruction Study Guide, (Nova University, Fort Lauderdale, 1972), pp. 247-248.

[67] Fantini, M.D., "The What, Why and Where of the Alternatives Movement," The National Elementary Principal, (April, 1973, Volume VII, Number 6), p. 17.

Based Teacher Education is a direct result of the public's demand for accountability. There are three basic criteria: (1) knowledge; (2) performance; and (3) product. These criteria are used to assess student cognative achievement, the behavior of the teacher and that teacher's effectiveness.[68]

The program is an attempt to assist teachers to review their role, responsibilities and functions, and to then develop a strategy by which these may be obtained in the classroom. Essentially the process is designed, field tested by the teacher and then redesigned.

III. Future Influences on Curriculum Design - Phase XXI (Refer to figure on page 87.)

A. Educational goals are a reflection of society and its needs. As previously explained, there are other influences upon curriculum priorities, however the most influential of these forces will receive attention. Goals in the last fifty years have changed little, emphasis and interpretation of these goals have changed, however.

B. The major future forces that will affect curriculum are social, technology, and the effects of federal funding of education. As we move into a more complex, polarized, tax conscious society, we will have to learn how to use our mass media, computers and existing facilities to a far better advantage than we have to date. I envision year-round schools, more individual self-responsibility for the student, computer-based programs with scanners in each building, a move toward more non-graded elementary schools, and flexible modular scheduling programs in the high school. Career education will be an accepted element of the normal K-12 curriculum. Value clarification will be integrated into the regular social studies program. Computers will complete all student secondary scheduling, correct and keep records on tests for all students, fulfill most of the duties of the central administration office staff and act in the place of a librarian in the instructional materials center.

C. The federal government will spend millions of dollars on research in the following areas: learning theories, human behavior, competency based education, accountability, social issues, and innovation. Various types of electronic equipment will be adopted and sophisticated to educational uses. As our curriculum becomes more cluttered in our fruitless attempts to "solve all the ills of society", we will find interdisciplinary approaches used in many subject areas. As the family unit continues to disintegrate, and more mothers enter the labor market, schools will be forced to accept more parental responsibilities eventually under the umbrella of community education (i.e., baby-sitting services, before and after school; possible breakfast programs; health needs; family counseling, etc.).

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[68]Arends, R.L., Masla, J.A., and Weber, W.A., Handbook for the Development of Instructional Modules in Competency Based Teacher Education Programs, (Center For The Study Of Teaching, Syracuse, N.Y., January, 1971).

We will move away from the modern math concept, yet still retain some of its virtues, aiming more toward utilitarian uses than those of preparing the child for abstract concepts. The study of cultural and political sciences will be increasingly emphasized. Social values classes and classes on social and individual power will become popular in the high school. Mini courses will retain their popularity and will be used to some extent in the elementary school.

Schools will become more community oriented, utilizing resources within the community much more than we do now. Metrics will be included in the normal science and math curriculum. The arts will become increasingly important with the large amount of leisure time that the individual will have. Small vocational shops and kitchens will be included in the building of most elementary facilities. Career education on the secondary level will be expanded and will utilize the intermediate/regional center concept. Adult education will be free and classes will be offered in the schools 24 hours a day, 6 days a week. Certainly the use of the computers will make the most influence upon curriculum.

Financing of the public schools will be more federally subsidized. Local districts will be without the benefit of property taxes as the basis for much of their revenue. The states will have a personal education tax, take local funding out of the state lottery sales or find an alternative method of paying for education. The federal and state will pay nearly all of the local district's expenses. This will be after the local districts are merged together to form larger districts, such as presently exist in Florida. Tenure laws will be radically altered and the educational associations will take a more active role in policing the profession and developing standards toward establishing a quality educational system in their areas.

IV. Boughner Trichotomy School Organizational Design Model - Phase XXII (Refer to Figure 17, page 98.)

One of the most historic problems of education has been to identify: (1) What the organizational pattern should be for an identified curriculum change; (2) What grouping of students should be used to teach that change; and (3) What is the most effective use of personnel to assure attainment of the pre-determined curriculum objectives and goals. In the interests of time I will not deal with the question of developing a curriculum philosophy, goals, and objectives, curriculum sequence, cumulative learning or integration.

I would rather discuss briefly a model that I designed for this examination, dealing with development of the school organizational plan. I have attempted to clarify and more fully define the horizontal and vertical organizational plans of a school. The organizational plan must know the needs, problems and limitations of the population of the school. It must be consistent with the written philosophy, objectives and goals as outlined by the teachers.

In my plan I have included an "oblique" structure rather than just the traditional horizontal and vertical structure of organization. This provides three lines for a right triangle, thus the name for the model, a "Trichotomy".

The purpose of the Boughner Trichotomy School Organization Design Model is to act as a guide for an administrator, after he and the faculty have agreed upon a specific curriculum change/philosophy for his school, to quickly identify the best type of school oragnizational plan that must be developed. He and/or the faculty can quickly identify the administrative vertical structure, the best horizontal student grouping methods and the most efficient oblique usage placement of faculty members.

I would suggest that rather than continuing the historic precedent of utilizing the concept of vertical and horizontal school plans in our development of the school organization design, a third element to an overall plan should be identified. This should be used as an integral component of the traditional vertical-horizontal school organizational concept. This would necessitate adding additonal words for the sake of clarity. A much clearer classification of "vertical" might be "vertical movement" (the administrative structure of the pupil's school progression from entry, to school departure). I cannot accept the historic concept of "horizontal organization"[69] being a component of school pattern that can be inclusive of both staff relationships and the grouping of students as stated by Neagley, Evans, Burr, Caffield and Jenson.

Rather than these historic concepts of vertical and horizontal movements, I would suggest the following:

1. Alter "Vertical" to "Vertical Movement" (administrative organizational structure)
2. Alter "Horizontal" to "Horizontal Grouping" (grouping of students)
3. Add a third component "Oblique Relationships" (teacher relationships)

Figure 11 is the design concept which I have called, the "Boughner Trichotomy School Organization Design Model".* Do not complete the sample worksheet that follows the "Trichotomy", as this sheet will be completed during Phase XXIII, D, Step 6.

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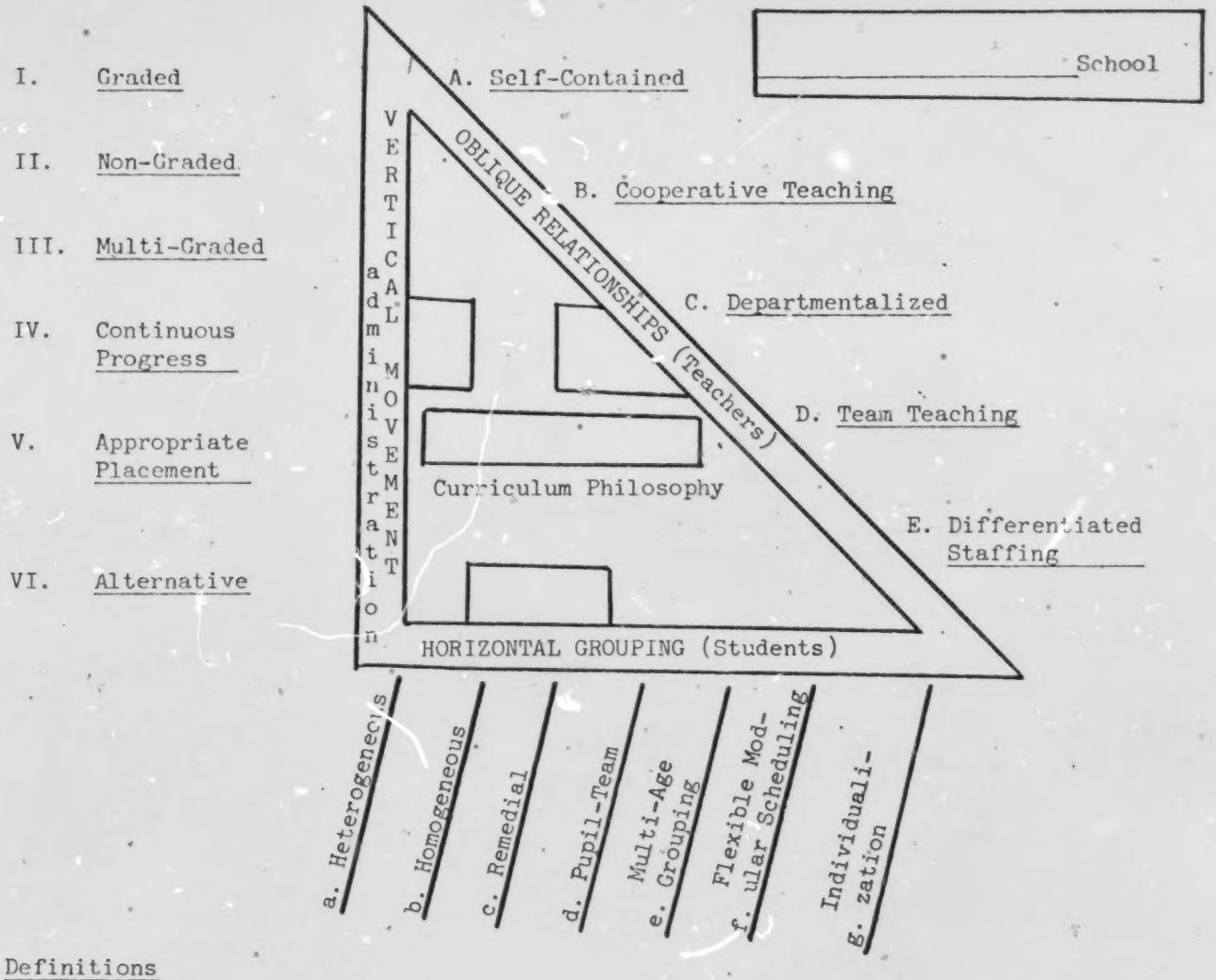
[69] Neagley, R.L. and Evans, N.D., Handbook For Effective Curriculum Development, (Prentice Hall, N.J., 1967, p. 106.

*Boughner, N.W., "Trichotomy School Organization Design Model", (Developed for the Nova curriculum examination, Ypsilanti, Michigan, September 28, 1974).

FIGURE 17. - BOUGHNER'S TRICHOTOMY SCHOOL ORGANIZATIONAL DESIGN MODEL[70]*



Definitions

1. Vertical Movement - (Administration) - Administrative guidelines for pupil progression from entry into school, to departure from school.

2. Horizontal Grouping - (Students) - Grouping of students for learning/maturation/socialization.

3. Oblique Relationships - (Teachers) - Placement of teachers in relationships to the placement of other teachers.

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[70]Boughner, N.W., "Trichotomy School Organizational Design Model", (Developed for the Nova Curriculum Examination, Ypsilatni, Michigan, September 28, 1974).

*Refer to "Work Sheet" on next page.

TRICHOTOMY SCHOOL ORGANIZATIONAL DESIGN MODEL[71]

SAMPLE WORK SHEET

Process:

I. Identify (through faculty discussion and agreement), your newly developed curriculum philosophy and write in the box located in the center of the Trichotomy (Figure 11).

Examples:

- subject-centered
- correlated
- fused
- core
- culture-epoch
- integrated
- inquiry-centered
- activity
- child-centered
- experience
- social functions
- community-centered
- discipline-centered
- value-centered
- open education
- discovery-centered
- learning centers
- experimentia
- middle school
- exploratory
- schools without failure
- etc.

II. Write your full school name and level (elem., middle, high school) in the box on the upper right of the Trichotomy (Figure 11, preceding page).

III. Identify the "Horizontal Grouping" plan on the Trichotomy (Figure 11), that will fulfill the curriculum philosophy you identified in #I. (Write the letter in the box touching "Horizontal Grouping", in the middle triangle of the Trichotomy (Figure 11).

IV. Identify the "Oblique Relationship" plan on the Trichotomy (Figure 11), that will best accomplish your selected type of student grouping that you identified in III. (Write the letter in the box touching "Oblique Relationships" in the middle triangle of the Trichotomy (Figure 11)).

V. Identify the "Vertical Movement" plan on the Trichotomy (Figure 11), that will provide the best administrative organization for the grouping and teacher relationship you have identified in III and IV. (Write the letter in the box touching "Oblique Relationships" in the middle triangle of the Trichotomy (Figure 11)).

VI. Circle each category you have written in the middle triangle of the Trichotomy (Figure 11). The categories circled will provide you with the school organizational structure that you should develop to best implement the curriculum philosophy that you and your staff wish to implement.

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[71] Ibid.

A. Brief Overview of the Elements Within the Boughner Trichotomy

1. Vertical Movement of School Organizational Patterns

a. Graded schools are the traditional pattern of school organization in America's elementary and secondary schools. It provides for students to progress vertically each year, from the lowest levels (pre-school, kindergarten or first grade) to the highest level (12th grade). There is a significant and specific curriculum that each child within the graded structure should learn at each grade level. Grading has been criticized for not providing for the individual needs of the students, as the students are expected to all cover the same subject information at each level. Many educators claim that this pattern breeds failure for many children, as it does not provide for the individual needs of the student at his level of achievement and speed of learning. Grade distribution usually follows a 6-3-3, 6-2-4 or 8-4 pattern. With the advent of the middle school concept, we can now find the 5-3-4, 6-2-2-2, 4-4-4 and 6-3-3 patterns. Research has not yet demonstrated that the way grades are grouped has any significant effect on cognative achievement in the educational program.

b. Non-Gradedness is the process by which the normal graded structure is ignored and each pupil continues to progress at his own rate of speed. The main purpose is to provide more fully for the total individual. We usually find a team-teaching structure, with the teacher usually being an expeditor, rather than the old concept of "teacher". The non-graded school is more open for flexibility and exhibits a more humanistic approach to working with children and encouraging them to learn. The basic goals of the non-graded organization are the content, personal/social and process goals. The non-graded school often utilizes the philosophy of William Glassar's "Schools Without Failure"[72] concept.

c. Multi-Grading is like the old one-room schoolhouse. The teacher has the flexibility of working with children from two to twelve grades in the same class. Each child works on subject area material of a particular grade level, however, they may work on various grade levels in different subject areas. This would depend upon his grade level mastery in each subject. Many high schools use a form of multi-grading in their class structures, to provide for the individual difference of the students.

d. Continuous Progress is an organizational plan which is a more sophisticated pattern of non-gradedness. Whereas graded schools provide a vertical movement from grade to grade, year by year, based upon a criterion of chronological age and mastery of a pre-established amount of content in one year, the emphasis of the continuous progress organization is upon the individual mastery of performance objectives in a continuum. Progress is based upon mastery of these objectives and each student is placed on the continuum where he can best comprehend the material and progress from that point, at his own speed of comprehension and rate of learning. Computer Assisted Instruction (CAI) is usually associated with

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[72]Glassar, W., Schools Without Failure, (Harper and Row, N.Y., 1969).

continuous progress organization in a school. Although we have traditionally envisioned continuous progress as a curriculum concept, if we investigate carefully, we can see that this is also a method of vertical student movement within the school organizational plan.

e. Appropriate Placement may best be described with a quote from B.F. Brown, "Quality education can be said to exist only when the best possible education is available at the varying levels at which the students in the school are able to perform. The entire curriculum should not be within the range of all students, but some part of the curriculum should be within the realm of the possible for each student. These aims are not to be achieved in the stratified organization of the grade."[73]

The appropriate placement pattern of organization is certainly the most meaningful vertical movement to date, as it tailors individual programs and content to the individual needs of the student. It is the ultimate of non-graded or continuous progress sophistication. Yet it is the most flexible, in terms of vertical movement, of all the organizational structures. The appropriate placement program may take place in a factory while earning credits toward an apprenticeship, or in a flying school while earning a private, commercial or mechanics license. The actual high school degree is flexible and tied usually to an identifiable need of the student. Career education and vocational programs, as well as those in the liberal arts fields (i.e., art, dance, music, etc.), often are courses that are built toward a high school degree, based upon the desires and future needs of the student in his particular chosen future vocation.

f. Alternative organization being characterized as a vertical organizational program, demonstrates that there is an option of having at least two or more of the previously listed vertical movement concepts within the school organizational program. An elementary school might have an option of a graded and non-graded vertical organization in the same facility. This provides an "alternative" choice for parents.

"The establishment recognizes that a monolithic public school system just won't work for everybody, and are incorporating into the public school framework such alternative school ideas as these: Gearing the learning to the individual and giving him choices as to the kind of program which will fit his needs, including the community and its resources in the learning program, establishing smaller educational units to humanize learning, relating the educational experience to the life of the community, making the school a service agency for learning rather than an institution which imposes a certain curriculum on students."[74]

2. Horizontal Grouping of Students

a. Heterogeneous Grouping is made to provide students with the opportunity to share various interests, talents, play, leadership planning and work

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[73]Brown, B.F., The Appropriate Placement School, (Parker Publishing Company, Inc., West Nyack, N.Y., 1965).

[74]National Association of Elementary Principals, "News Release of NAESP Annual Convention", (Detroit, Michigan, April 14, 1973).

together. Grouping by similar birthdates is usually an example of heterogeneous grouping. Many educators say that it does not provide the student an opportunity to share a commonly understood purpose, with a healthy peer competition environment, or the teacher with the opportunity to individualize classroom instruction for the full range of different student achievement levels.

b. Homogeneous Grouping, often called "ability grouping" places students within the same group for a/all subject areas. Students are usually grouped initially on the basis of their ability, as determined by results of IQ tests, grades, achievement tests or teacher perceptions of the pupil's potential. Opponents of homogeneous grouping claim that general intelligence is not enough to judge a child on, that other variables, forces and motivations must be considered than just intelligence.

c. Remedial Grouping is viewed by many educators as ability grouping. This is not true, however, as remedial grouping will group students with wide ranges of achievement together. It was a product of ESEA Title I and III programs. They provide a very high per-pupil cost for items such as special continuous progress programs, A.V. equipment and materials, CAI and low teacher-pupil ratios.

d. Pupil-Team Grouping is the careful grouping of students, at any grade level, to provide an opportunity for them to assist one another, and to foster more interaction for those students who are normally compatible with one another. It provides the teacher with more time to provide the individual students with assistance, to plan individual prescriptions or programs, to tutor or to keep more meaningful records of student progress. There has been much public opposition to this grouping and it has met with little success as a result of this pressure.

e. Multi-Age Grouping is a class grouping composed of children from a two year or more span of ages. The purpose is to increase the range of individual differences of the students, as this is believed to create a better learning environment for the whole child. It is believed that children learn from each other. They will develop a more realistic role for themselves in a peer setting, and more meaningful social skills because of the age difference of the students in the group. Teaching methodology, although it is much more individualized, utilizes many small and large group techniques to ensure a high level of social interaction.

f. Flexible Modular Scheduling is, contrary to most beliefs, not a vertical movement category, although this is how it is usually viewed. The main emphasis of FMS is the design of the curriculum around the effective use of the scheduling of large groups, small groups and independent study/teacher-student conferences. The use of 15 to 30 minute modules create flexibility in scheduling and in the normal school day. FMS provides much more flexibility for: (1) the teaching of different subject contents; (2) a better use of

teacher time; (3) more individual help to each student; and (4) more of an opportunity for student direction, self-responsibility, and if the curriculum and course offerings are designed well, for more choice and alternatives to the students.

g. Individualization is a type grouping which most people think of as a teaching technique or method. This is incorrect as the grouping of the child and how he is related to the curriculum content and other students is of paramount importance to the concept. It is essentially a grouping that provides the student with the best opportunity to learn at his own level of comprehension, his own pace of learning, and to seek assistance from the teacher when needed. It does not mean that learning is accomplished in a one-to-one situation, although this will take place. Students are grouped with other students throughout the day in both large and various-sized small groups. Sophisticated individualized commercial programs are most often correlated with the reading, math and spelling portions of the curriculum. Each district, each school, each teacher uses different components of individualization so you will never find two which are the same. There are many individualized programs such as IPI (Individually Prescribed Instruction), LAP (Learning Activity Packages), TLU's (Teaching Learning Units), PLAN (Program for Learning in Accordance with Needs), and YIIM (Ypsilanti Individualized Instructional Model)*. There are many individualized programs designed for school districts or individual classrooms. The trend towards individualization is perhaps one of the most dominant forces underlying all of the educational concepts of today.

3. Oblique Relationship of Teachers

a. Self-Contained classrooms are those in which the teacher teaches a subject/s entirely by herself. She does not utilize the skills of another teacher. She is the only teacher responsible for the child learning that subject matter in that year/semester. The self-contained classroom teacher feels that she knows her students better because she is with them for a full year in that subject area and can ensure continuity of the subject content.

b. Cooperative Teaching is what many parents and educators mistakenly call "team teaching". Cooperative teaching is simply what the term implies, two or more teachers cooperate in the teaching of a particular unit, subject or time period. This is often found in departmentalized groupings of teachers. It provides the opportunity for a teacher to share professioal strengths with teachers of another class. There is normally very little mutual planning between the two teachers.

c. Departmentalized staffing patterns has been the most common form of grouping teachers in a secondary school. Each teacher has a professional level of expertise in a subject area and this is what she always teaches. She teaches only one subject (i.e., social studies), however, she may teach different levels

*Individualized math and reading program developed and designed by the author in 1971, 72, 73 for the Ypsilanti Public Schools.

of content within the department (i.e., American History, Civics and/or Government). Each teacher has a specialty. Each subject receives more equal attention than it would under the self-contained teacher. Teachers are more inclined to keep up-to-date in their field of specialization. It is easier to arrange inservice or meeting time with the teachers in this structure.

Departmentalization has negative implications also. More supervisory persons are needed to coordinate the various areas of the curriculum. Teachers have the children for shorter periods of time so they don't know their students as well as the self-contained teacher does. Curriculum is normally more structured and subject-oriented, not always considering the total individual. Time is not flexible. There is little, or no interdisciplinary integration of subject areas.

d. Team Teaching is a pattern of grouping teachers that emerged in approximately 1954. Professor J.T. Shaplin and Professor H.F. Olds[75] have provided us with some of the most definitive descriptions of team teaching. It is normally composed of two or more professional members of the teaching team. Paraprofessionals (aids) are often an integral part of the team. Teams may have different types of responsibility with different levels of pay (i.e., differentiated staffing, team leader, master teacher). Mutual planning, teaching and evaluation are the responsibility of the team, rather than the responsibility of any individual teacher. There is a close working relationship among team members, and clearly established lines of responsibility in planning together for instruction.

e. Differentiated Staffing is the best example of the oblique section of the trichotomy. The oblique relationship deals directly with the assignment of teachers, in relation to the assignment of other individual teachers. Dwight Allen[76] the "father of differentiated staffing", feels that we need a completely new approach to how we assign staff and the responsibility that we assign to them. He feels that there is a better way of utilizing the staff and their talents, skills, interests and competencies, rather than all teachers, each having different competency levels, being paid the same amount of salary for the end product. Teaching staffs are divided into different levels of competencies and responsibilities. Allen established four levels of differentiated staffing: (1) the associate teacher; (2) the staff teacher; (3) the senior teacher and (4) the master teacher. Each teacher is paid according to her level. This type of "merit pay" is an incentive for the teacher to perform her described responsibilities well. Differentiated staff identifies different levels of responsibility and job functions with increased salary for higher levels of responsibility. The most well-known and oldest differentiated plan in the United States is in Temple City, California.*

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[75]Shaplin, J.T., and Olds, H.F., Team Teaching, (Harper and Row, Publishers, Inc., N.Y., 1964), pp. 2-3.

[76]Allen, Dwight, "A Differentiated Teaching Staff", (Stanford University, 1971).

*See Figure 12.

FIGURE 18 - TEMPLE CITY DIFFERENTIATED STAFF PLAN, 1969-71[77]

			Non-Tenure MASTER TEACHER Doctorate or equivalent
		Non-Tenure SENIOR TEACHER MA or equivalent	
	Tenure STAFF TEACHER BA and Calif. Credential		
Tenure ASSOCIATE TEACHER BA or Intern			
100% teaching responsibilities	100% teaching responsibilities	60% staff teaching responsibilities	40% staff teaching responsibilities
10 months $6,500-$9,000	10 months $7,500-$11,000	10-11 months $14,500-$17,500	12 months $15,646-$25,000
	INSTRUCTIONAL AIDE II $6,000-$7,500		
	INSTRUCTIONAL AIDE I $4,000-$7,500		
	CLERKS $5,000-$7,500		

[77]Cooper, James M., "Differentiated Staffing: Some Questions and Answers", The National Principal, (Volume LI, #4, January 1972), p. 51.

V. Organization and Design of the Curriculum - Phase XXIII (Refer to figure on page 87.)

A. Purposes: The Curriculum Development Design Model is intended to consolidate the efforts and knowledge of the preceding committee work that was completed in the two models that have been previously discussed. The intensive inservice effort of the TCCISM (Teacher Centered Curriculum Inservice Study Model) and phases XIX - XXII has provided all participants, parents, teachers and administrators with a common base knowledge of curriculum understanding, design and implementation, and indepth investigation into the nature and influences of learning. This complete inservice, if properly conducted, will act as a foundation for which the best possible curriculum and school organizational pattern may be designed for the needs of that student population that the facility and curriculum will be designed for. Most important, the involvement of the chosen faculty, all who have diverse academic backgrounds, now have a common understanding of current educational theory, influences, and contemporary educational trends, that are necessary to make sound educational decisions for curriculum design. In addition, you will find your parent participants knowledgeable and highly supportive of your final curricular design. All participants, teachers, parents and administrators, will have acquired the foundation for a common point of departure in actually beginning to design the curriculum phase XXII, B of the Curriculum Development Design (CDD).

The intensive work that was completed during the District Curriculum Study Model (DCSM) and phases XIX - XXII has provided all participants with a specific and broad profile of the data and statistics, about what the needs of the district are, what the characteristics/conditions are of all facilities in the district, what present programs and school organizational patterns are presently being implemented in the district and a review of historic, present and future curriculum patterns.

During the implementation of the Curriculum Development Design phases, all of the knowledge that has been reviewed will be applied toward designing the new facility and curriculum.

B. Structure of the Committee: The committee is composed of teachers, parents and administrators. Thre are eleven (11) basic steps to this phase of the total program. It is most important, however, for the committee to work as a committee of the whole for each of these steps. There must be nearly unanimous concensus for the adoption of all phases VI, VII and IX. Keep in mind that all of the time and effort that has been expended to this point, has been accomplished to provide all faculty member and parents with as fine an educational background as they would have received in the top teacher colleges in the United States. They have actually completed a more indepth study in education, than can be found in most teacher preparation college curriculum in the country. More important is that the information they were reviewing, investigating and researching all has personal relevancy to each teacher now that he/she possesses actual teaching experience in dealing with discipline, learning and curricular problems

within their own classroom. Now they may apply those principles/information that, through experience, they know will be most effective for the education of children.

Historically, school facilities have briefly developed their philosophy and goals for their new school, and then immediately begun to develop the educational specifications for the building. They have had little or no common base of educational knowledge from which the philosophy and goals are developed. Although there is usually concensus at this point, educational jargon is often confused (i.e., non-graded versus ungraded, open space versus open classroom, team teaching versus cooperative teaching, etc.). This curriculum inservice plan ensures that teachers know the nature of learning and the influences upon learning, regardless of when he/she attended college, or regardless of the quality of formal teacher preparation she received.

C. Procedure: Items in each step of the ODC will be completed by small committees of one or two persons which report their findings back to the committee of the whole a half day release-time inservice training sessions. Each of these sub-committees will distribute to the committee of the whole, a summary report of one page or less. Brief discussion of the report may take place at that meeting. Minutes of each meeting of the committee of the whole should be kept and distributed to all participants, the day after the meetings so that there exists a complete understanding of each sub-committee's report.

After all steps have been orally reported, brief summaries distributed to the committee of the whole, and ensuring discussion completed on the contents of the report, the committee of the whole is ready to complete the development of phase XXII, Program Design, which is the most critical phase of the entire Utopian Teacher-Centered Curriculum Inservice, Study, Design Model (TCCISDM).

D. Program Design Development

Step 1:

Item
- A. Identify the Current Purposes of Education
- B. Review Goals of Quality Education
- C. Identify Current National Priorities of Education
- D. Review State Common Goals of Education and Accountability Guidelines
- E. Review Your Local Board of Education Philosophy, Goals and Objectives
- F. Review Board of Education Dictated Curricula
- G. Review Future Trends of American Education

Step 2:

Item
- H. List the Major Strengths of Phase XVIII
- I. List the Major Weaknesses of Phase XVIII

Step 3:
Item J. Develop Local District and School Priorities of Education
K. Develop Local Building Curriculum Philosophy
L. Develop Local Building Goals

Step 4:
Item M. Identify Board of Education Priorities and Imposed Limitations

Step 5:
Item N. Study Boughner's Trichotomy School Organizational Design Model*
O. Establish a List of Outstanding Schools in Your State/ Neighboring States
P. Develop a Teacher Visitation Schedule that Provides for Each Teacher to Visit at Least Two (2) of the Schools on the List in Item "N"
Q. Orally Report, to the Committee of the Whole, the Observations of Your Visitaton

Step 6:
Item R. Boughner's Trichotomy School Organizational Design Model*
- Establish "Horizontal Grouping" for the New School
- Identify the "Oblique Relationship" for the New School
- Identify "Vertical Movement" for the New School
- Complete the "Trichotomy" Sheet

Step 7:
Item S. Develop Student Progress Procedures
(1) Develop Philosophy for Recording Student Progress
(2) Develop Philosophy of Reporting Student Progress to Parents

Step 8:
Item T. Establish Length of School Day, Flexible Recess Time, and Lunch Hour (Refer to Master Teacher Contract and Assistant Superintendent of Instruction)
U. Identify Special Teachers and Programs
V. Establish Pupil Teacher Ratio (Refer to Master Teacher Contract and Assistant Superintendent of Instruction)
W. List Probable Student Activities and Sponsors

Step 9:
Item X. Recommendations of Educational Program Offerings
Y. Recommendations for Basic Program Materials (Textbooks, etc.)
Z. Recommendations for Supplemental Materials (Workbooks, Globes, etc.)

*Utilize and refer to Figure 11, "Boughner's Trichotomy" and Worksheet.

AA. Recommendations for AV Equipment
BB. Recommendations for AV Materials

Step 10:
Item CC. Order Professional Books and Periodicals Reflecting the Content of Items J-X

Step 11:
Item DD. Design an Evaluation Instrument and Strategy for all Areas of the Total School Program

E. Evaluation/Assessment of Curriculum Models

Great claims have been made for curriculum innovations in the area of new organizational plans, teaching techniques, or curriculum patterns. Unfortunately, evaluation processes and instruments to objectively assess these innovations are usually very inferior. With the resurge of accountability, curriculum designers are attempting to develop more objective and accurate assessment models for student achievement and curriculum models/patterns. In addition, curriculum designers are attempting to develop methods and strategies for evaluating the process of curriculum development itself.

The current and most successful evaluation trend for assessing the curriculum and its affect upon learning is through the use of behavioral, program, instructional and/or performance objectives. Actual evaluation is the last step in the curriulum development process. First we must formulate a set of objectives and purposes. We select the content, learning resources and activities and then pilot it in a classroom/school. Now we evaluate, on the basis of expected student outcomes, and the earlier stated objectives and goals. After the evaluation, the curriculum is modified on the basis of the findings of the evaluation. As curriculum development is an ongoing process, the process begins once again. The cycle may take from one to five years, depending upon the intensity and number of participants.

Evaluation must be a K-12 endeavor. Too often the elementary and secondary schools will separately evaluate a program without any dialogue or common objective between them. The total vertical, horizontal and oblique* must be examined at the elementary and secondary schools simultaneously and work in conjunction with one another.

One of the other areas of evaluation is that of behavioral changes. This includes the assessment not only of students, but of teacher's behavior also. The testing of students achievement levels tells us only what the students have, or have not learned, but it may have significant implications to what a teacher's weaknesses or strengths are.

The use of the PACER (MAT Achievement Test Analysis) item analysis computer printout will identify not only what answers were most often missed on a

*Refer to Figure 11, "Trichotomy School Organizational Design Model".

test, but also what the frequency response was for everyone taking the test, which questions were frequently missed and what was the average response of the national norm, the state norm, the district norm, the school norm and the class average. All of this information can specify to the teacher which concepts/skills her class did, or did not, achieve. She and possibly the principal, should carefully investigate the materials in her class, the curriculum, and/or her teaching strategies/methods. The self-evaluation method of investigation would most likely achieve more significant results of teacher behavior modification, than the principal would, in his attempt to identify and solve the problem, either for or with her. He should develop a method by which teachers will outline in the form of written objectives, what changes they desire to make in a particular area (i.e., use of different materials, grouping or teaching techniques), or what results they desire in a specified period of time.

An effective curriculum evaluation process is extremely important in the present age of accountability. The public is asking whether or not we are properly allocating our resources toward appropriate goals and producing desired educational student achievement. The trend is to more deeply involve the community in the selection of educational goals. Parents and students are demanding involvement in the determination not only of educational goals, but educational priorities and in some cases, the planning of curricular programs. Whatever committee system is used at each of the levels of the evaluation, it should be stated that all those persons that will be affected by the program should have some type of a role in the curriulum development process.

As there presently exists a large dichotomy in educational circles about the use of behavioral objectives, the following is a five basic phase evaluation process that is not based upon behavioral objectives.[78]

1. Needs Assessment - The principals will determine the educational philosophy and goals appropriate for his school. He should involve teachers, parents and students in this development process. The philosophy and goals are to be written. Analyze how well the goals are being presently met in the school, and what improvements need to be made.

2. Program Planning - The principal and faculty should investigate the alternatives of programs that will meet the written goals and stay within the guidelines of the written philosophy and the Trichotomy, as listed earlier.

3. Implementation Evaluation - As the new/altered curricular plan is implemented, an evaluation of the implementation will keep the principal aware of problems that are arising.

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[78]Center for the Study of Evaluation, CSE Elementary School Evaluation Kit, (Allyn and Bacon, Inc., Boston, Mass., 1972).

4. Progress Evaluation - After the program is implemented there may be a number of changes/alterations that have to be made. A progress evaluation must be made for problems and staff recommendations. This will provide the principal with information as to how, when and where changes should be considered. This will take place for the first year or two.

5. Outcome Evaluation - At the completion of the first or second year of the program, the only method of judging the success of the program is to ascertain whether it should be continued, altered or rejected is to evaluate all of the components of the program, i.e.; curriculum, Trichotomy, materials, resources, facilities, classroom learning environment, attitudes of students, teachers and parents, equipment and effectiveness of staff. Many types of referenced tests may be used to measure pupil performance, or attitudes, against a control group. Self-evaluations may be used to identify teacher competency problems and to establish a strategy for changes of her weaknesses.

VI. Validation of the Curriculum Design Model - Phase XXIV (Refer to figure on page 87.)

A. Committee Structure: The validation on Part I and II must be completed by the original committee that made the initial study in each phase of the left-hand column.

B. Procedure:

Part I: Refer to your completed copy of Figure 11 ("Boughner's Trichotomy School Organizational Design Model") that you completed in phase XXIII. You have identified, in the center of the Trichotomy*, four major curriculum components for your school's organizational design: (1) Curriculum Philosophy; (2) Student Grouping (horizontal grouping); (3) Teacher Relationships (oblique Relationships); and (4) Administrative Organization (vertical Movement).

To validate your Trichotomy selections for the organization of your new school, write on the "Curriculum Validation Sheet, Part I", (next page), each of the Trichotomy results (as taken from Figure 11) in the appropriate headings, (1), (2), (3) and (4). Then, referring to the left-hand column, place an "X" in those boxes under the Trichotomy headings that are in philosophical/functional conflict with the data that was previously researched/collected by the committee/s during that phase.

Part II: Refer to blank 1, 2, 3 and 4 of Part I and fill in the blanks in Part II with the same words. Refer to the left-hand column of each trichotomy heading, place an "X" in those boxes where the headings are in philosophical or functional conflict with the actual items that the original committee drafted during phase XXIII, section D, "Program Design Development".

*Refer to Figure 17.

C. Validity Instruments:

FIGURE 19. - UTCCISDM

CURRICULUM VALIDITY SHEET

School Name

Chairman

Date

Part I:

Directions: Fill in the information for blanks 1, 2, 3 and 4, as identified in your completed Trichotomy in Figure 11. Referring to the left-hand phase column place an "X" in those boxes where the headings are in philosophical or functional conflict with the researched/collected data that was completed during that phase of the UTCCISDM.

PHASE	Curriculum Philosophy 1.	Student Grouping (Horizontal) 2.	Teacher Grouping (Oblique) 3.	Administrative Organization (Vertical) 4.
I.				
II.				
III.				
IV.				
V.				
VI.				
VII.				
VIII.				
IX.				
X.				
XI.				
XII.				
XIII.				
XIV.				
XV.				
XVI.				
XVII.				
XVIII.				
XIX.				
XX.				
XXI.				
XXII.				
XXIII.				
XXIV.				
TOTAL "X's"				

FIGURE 20 - UTCCISDM

CURRICULUM VALIDITY SHEET

School Name

Chairman

Date

Part II:

Directions: Fill in the information for blanks, 1, 2, 3 and 4, as identified in the same blanks on Figure 13, Part I. Referring to the left-hand phase column, place an "X" in those boxes where the headings are in philosophical or functional conflict with the actual items that the original committee drafted during Phase XXIII, Section D, "Program Design Development". Place a "NA" (not applicable) in those boxes which have no relevance to the Phase XXIII column.

PHASE XXIII, D,"Program Design"	Curriculum Philosophy 1.	Student Grouping (Horizontal) 2.	Teacher Grouping (Oblique) 3.	Administrative Organization (Vertical) 4.
A. Current Purposes of Ed. B. Goals of Quality Ed. C. National Priorities of Ed. D. State Common Goals E. Local Board of Ed. Philosophy E. Local Board of Ed. Goals E. Local Board of Ed. Objectives F. Local Board of Ed. Dictated Curricula G. Future Trends of Amer. Ed. H. Major Strengths of Phase XVIII J. Local Board of Ed. Priorities M. Local Board of Ed. Imposed Limitations				
I. Does at least one of these Trichotomy items solve the major weaknesses identified in Phase XXIII, E, Step II, I?	____Yes ____No	____Yes ____No	____Yes ____No	____Yes ____No

D. Interpretation of the "UTCCISDM" Curriculum Validity Sheets:

Part I:

There is no "magic formula" of the number of "X" responses that you must have on the Validity Sheets to validate your developed school organizational design. Zero "X" responses would, however, indicate a perfect validation quotient for your chosen organizational structure. The faculty committee should review carefully all of the "X" responses to ensure that there are no incongruities, or a lack of teacher commitment to the organizational design and Trichotomy structure. If there are a large number of "X" responses, the entire Trichotomy results should be reviewed, and then altered.

Part II:

With the exception of the last question, there should be no "X" responses. If there were "X" responses, the committee should investigate the reason for the conflict and attempt to resolve it. If the last question has any "No's" marked, the committee should investigate why those major weaknesses were not solved, and then build a strategy to solve the weakness.

Summary:

If there were a large number of negative responses to Part I or Part II, the committee of the whole should repeat the entire Phase XXIII once again, followed by the completion again of the Validation Phase XXIV.

Now that the Boughner Trichotomy has been successfully developed and validated, the faculty may turn its efforts toward developing educational specifications for the new facility.

CHAPTER VIII THE DEVELOPMENT OF EDUCATIONAL SPECIFICATIONS

What are educational specifications? What develops them? How detailed should they be? Are they really necessary? Logical questions? Yes. Easily answered? Not really.

A functional, well-organized educational facility reflects a considerable effort in planning, and an architect that is able to interpret an educational program.

Let us take each of the four questions above separately and attempt to answer them. First, "What are educational specifications?" They are simply a program, list, chart, etc., of educational requirements a district will provide for the architect. It is the educator's written picture of everything, educationally speaking, that is desired in a facility and how it functions independently as well as how it relates to the total school plan.

What should develop the educational specifications? This task is usually undertaken by a large committee of interested persons. There is no exact number nor is there a perfect way to organize such a committee. These decisions are influenced by the interest and size of the community as well as the type of facility to be erected.

The third question is, "How detailed should the specifications be?" They should include everything the committee can tell the architect about the functioning of the building, but at the same time they should not restrict the architect to a preconceived design. An extreme, and comical example would be having every department located in the center of the building. This would then dictate a building ten to twelve stories high. Absurd, yes, but graphically indicates a "don't."

The last question, "Are they really necessary?" Yes. There is no way to design a building to be functional when the function is unknown.

The next few pages contain a brief outline of areas to be considered. This merely provides a guide to an individual involved in school planning and should not be interpreted as the only direction to follow.

A philosophical statement by the board of education and/or the planning committee is appropriate, however, it may be so general it cannot be interpreted by an architect and transposed into a physical facility. Example: The board of education desires to erect the finest educational facility possible, and to provide educational experiences for the individual in order to have him function in a

democratic society. Theoretically, this is fine; but it would be most difficult to translate this statement into mortar, glass, steel, and wood.

Immediate consideration should be given to the type of program to be offered and the manner in which it will be conducted. Among the many questions of concern should be:

High School

1. Number of students to be housed.
2. Number of periods per day.
3. Length of periods.
4. Type of schedule.
5. Organization of subject areas.
6. House plan.
7. Integration of subjects.
8. Administrative organization.
9. Counseling plan.
10. Teacher/student ratio.
    a. Entire building.
    b. For each subject.
11. Individualized instruction.
12. Independent study.
13. Alternative educational programs.
14. Library.
    a. Media Center.
    b. Resource Center.
    c. Professional Library.
15. Large or small group instruction.
16. Inter-department instruction.
17. Team teaching.
18. Computer instruction.
19. Vocational programs.
20. Teacher aides.

Elementary School

1. Self-contained classroom.
2. Open space facilities.
3. Team teaching.
4. Non-graded approach.
5. Library.
6. Audio visual programs.
7. Guidance program.
8. Teacher work rooms.
9. Remedial facilities
10. Recreation facilities.
    a. Inside.
    b. Outside.

The preceding lists are not intended to be all inclusive, but simply to provide basic questions that must be answered.

The logical progression should then be the consideration of each facility or department and its particular need and function. The departments can be listed easily, but additional space requirements may become more difficult.

Departments

Math
Science
Administration
Counseling
Physical Education
English
Social Studies
Art
Music
Library
Special Education
Industrial Arts
Home Economics
Vocational Education

Miscellaneous Areas

Language Labs
Science Storage Rooms
Teacher Preparation Rooms
Auditorium
Cafeteria
Parking
Conference Rooms
Audio Visual Storage
Health Room
Lavatory Facilities
Community Room
Display Areas
Professional Library
Furniture Storage
Dark Room
School Bus Area
Bicycle Facilities
Departmental Offices
Large Group Instruction Areas
Outdoor Science or Nature Area
Outdoor Physical Education Facilities
Outdoor Athletics
Vault
Broadcasting Studio
Computer Terminals
Swimming Pool
Custodial Storage

Speech Room
Staff Dining Room
Lockers
Shipping and Receiving
Planetarium
Field House

The preceding items must be considered as only a preliminary outline. The grades to be accommodated, number of students, amount of dollars, and future expansion are influencing factors affecting school planning.

To show additional division in the preparation of specifications, two examples are indicated. They list the facilities that they may incorporate in two separate departments.

Administrative Complex

1 Principal's Office
1 Secretary's Office (Principal)
2 Assistant Principals' offices
2 Secretaries' Offices (Assistant Principals)
1 Conference Room
1 Attendance Office
1 Director of Student Activities Office
1 Public Address Room
1 General Office (2 receptionists)
1 Switchboard
2 Lavatories
1 Drinking Fountain
1 Lounge (kitchenette)
4 Counseling Offices
1 Storage Room for student records
1 Reception Area for counseling
Staff mailboxes
1 Clinic
1 Nurse's Office
3 Miscellaneous Offices (psychologist, visiting teacher, etc.)
8 Department Offices
1 Public Telephone
1 Work Room
Appropriate telephone service
Intercom telephone system
1 Built-in key cabinet
1 Wardrobe closet for office personnel and visitors
1 Lost and Found Area

The example indicated above would be for a secondary building, however, with the deletion of some facilities it would be appropriate for an elementary administration complex.

Physical Education

1 Gymnasium (divisible)
Bleacher Seating (folding)
1 Wrestling Room

1 Weight Training Room
2 Storage Rooms (P.E. equipment)
2 Instructors' Offices (Male, Female)
1 Health Room
2 Locker Rooms
2 Shower Rooms
1 Laundry Room
2 Towel Storage Rooms
1 Swimming Pool
1 P.A. Room in Pool area
Observation Area (below pool)
1 Pool Equipment Storage Area
2 Training Rooms
1 Ticket Booth
4 Softball Diamonds
1 Baseball Diamond
2 Dug-outs
1 Soccer Field
1 Football Field

2 sets Bleachers
1 Press Box
Night Lights
1 Scoreboard

1 Field House

1 Equipment Apparel Storage Area
1 Seasonal Equipment Storage Area
2 Locker Rooms
2 Shower Rooms
2 Training Rooms
1 Movie Room
First Aid Facilities
Lavatory Facilities

2 Spectator Lavatories
1 Refreshment Stand
Spectator Parking
Bus Parking
1 Track
1 Pole Vault Area
1 Shot-put Area
1 High Jump Area

The two preceding examples provide a list of spaces desired by a committee developing educational specifications. It now becomes necessary to provide a written description as it pertains to each of the spaces. This direction may be in the form of location in the building, size, function within the departmental complex, relationship to other departments, or relationship to exterior areas. It should also contain information regarding entrances and exits, equipment, capacity, shape, and may contain color suggestions for specific reasons.

The final list of items for consideration may pertain to either the educational process directly or to the physical structure and maintenance of the building. These items are listed below.

Demountable walls
Folding partitions
Study carrels
Meeting rooms
Drinking fountains
Crowd gates
P.A. system
Bell system
Fire alarm system
Sprinkler system
Lighting (natural and artificial)
Use of glass
Interior classrooms
Showcases
Corridor bulletin boards
Floor coverings (ceramic tile, carpet, etc.)
Air conditioning
Student lounge
Color schemes
Cleaning operation (vacuum)
Window coverings
Public telephones
Warning system (fire, theft, etc.)
Elevator
Boiler room
Custodial shop
Custodial locker room
Trash disposal
Shipping and receiving areas
Flag pole
Bus, truck, pedestrian traffic
Parking

It is evident from the preceding pages, the development of educational specifications is not an easy chore; nor should it be taken lightly. There must be a considerable amount of time invested in the organization and planning to prepare the committee for this purpose. Committee visitations before and during the preparation of specifications is always recommended.

The final document, as prepared by the committee, (approved by the board of education and presented to the architect) should be clear and precise. A document that is vague will lead to confusion and interruption, which will ultimately mean a building that will not function as intended.

CHAPTER IX SITE SELECTION

Like all aspects of planning for a new educational facility, there is extensive work, research, and discussion involved. Site selection is no different. There is no easy route, no set pattern, and very seldom are there two identical situations. It is hoped that the suggestions and questions that follow will prove to be guidelines in assisting with the correct solution for any particular decision.

Following is an attempt to illustrate six areas of investigation when considering site acquisition. These are cost, surrounding business, existent or proposed housing, transportation, public utilities, soil conditions and terrain, and size.

Cost

The ideal situation is to have purchased sites in advance of an anticipated building program. This is an example of pre-planning as opposed to the statement, "We need another building, where can we put it?" Of course, the other advantage is simply having purchased sites in the past would have saved the district considerable cost. Although purchasing sites in advance of the actual need saves considerable sums of money, the board of education may be severely criticized. The criticism is based on land purchased by a school district is no longer taxable. Herein lies the adage--"darned if you do; darned if you don't."

When it becomes necessary to purchase land for construction, a consideration should be the number of persons involved in the sale. It should be hoped that the entire parcel may be purchased from one individual. When this occurs, negotiations take place between two parties. If it becomes necessary for the board of education to negotiate with more than one party, the price of land often increases from parcel to parcel. The end result is often an excessive cost for the necessary number of acres to ultimately drop the idea of a particular area and begin seeking a second or third choice.

An additional consideration in purchasing is the idea of obtaining land in excess of the necessary acreage. The idea is advantageous for four reasons: first, cost per acre decreases as the number of acres increases. Second, the additional land will allow for future additions to the educational facility. Third, there is the potential of future useage for additional facilities (transportation building or warehouse). There are additional possibilities which can include a vocational building, special education facilities, or outdoor education park. Finally, additional land purchase may preserve land and thus avoid housing or industry construction close to educational facilities.

Surrounding Business and Roads

Let us first consider the question of roads. The ideal situation is to have selected a location where a facility is accessible from two different directions. At the same time, it's convenient to have the roads end at the school so incoming/outgoing traffic does not have to go through a residential area. This situation provides for minimum difficulty with buses, driving students, and reduction of vehicle noise. The least preferable situation exists when a school must be located near a primary road or freeway. This location has excessive vehicle traffic noise. It often creates a problem of exiting the school site and merging with traffic. In addition, there is the problem of pedestrian crossings and the increased possibility of an accident.

When possible, a site should be selected where little or no business exists. To separate bhs businesses into two categories for discussion purposes is appropriate here. One, industrial business--this situation has the obvious potential problems of noise, smoke, large trucks, traffic congestion, and ultimately a number of possible distractions. The commercial business is the second category. Usually, there are fewer trucks and less noise and smoke. However, the number of vehicles increases. The other concern at the secondary level has to do with the question of skipping school and the potential problems related to theft. Additional explanations could be developed, but with the surface information indicated, there should be ample caution indicated.

Two additional considerations should be pointed out at this time. Both airports and railroads are important to our leisure time activity as well as to the business world. However, both may pose either a safety or a sound problem in the everyday operation of an educational facility.

Existent or Proposed Housing and Transportation

In the case of an elementary building, serious consideration should be given to locating the facility in a highly populated area. When this occurs, the transportation of students decreases, therefore the traffic congestion, potential number of pedestrian accidents, and the total operating costs all decrease. In addition, the school often becomes the focal point for community activity thus leading to a positive feeling between community and school.

However, it is felt the opposite is true when erecting a secondary facility. The high school ordinarily is much larger and accommodates students from a greater distance than does the elementary building. This increases the potential number of vehicles; therefore, noise, congestion, and potential accidents increase. In addition, the area needed to erect a secondary building should be four to five times larger than an elementary site. This fact usually dictates a site being selected outside the residential area.

A common-sense approach to school construction should be to erect school facilities as new areas develop. This will eliminate the cost of purchasing buses and transporting students until a building is

complete and then rearranging boundaries to adjust the respective school populations. This planning dictates a close working relationship with a city planning commission and the school board.

Public Utilities

The utility companies must be considered whenever school sites are being considered. Ordinarily, very few problems exist when sites are selected in a new development. Accommodations can be made and costs remain at a minimum.

When a site is selected outside a populated residential area, or where no business or industry functions, high costs of installation and/or maintenance may exist.

The architect must also do some very careful planning of the structure relative to utilities. In recent years, problems have existed relative to the various power sources available. Such questions as the availability of gas vs. oil for heating purposes, the telephone system and the consideration of a private company vs. Bell Telephone Company, and finally the water and sewage sources were extrenely important considerations in site selection.

Soil Conditions and Terrain

The least expensive parcel of land, although it may be located in the desired general area for school construction, may not be the best bargain. Soil tests should be conducted prior to the purchase of the land. Conditions below the surface may create insurmountable problems or situations that cause construction costs to become prohibitive. The two simplest examples are rock formations or a high water table. If these conditions exist and building proceeds in spite of costs, problems may continue in the future as the building settles and an excessive amount of cracking occurs.

The terrain may assist in the design of a uniquely different structure, and at the same time create an undesirable building. For example, if the architect is requested to build a one-story building on a small, unlevel or hilly parcel of land, it may become necessary to shape a building and create "clumsy" traffic patterns. Although an architect views each building design as a challenging opportunity, many times circumstances are created that inhibit good, over-all design.

The converse is true when the site is large and no specific direction is given relative to the number of levels. There exists a number of fine examples throughout the country where buildings have become a part of the land and "fit" beautifully. The interior student traffic and exterior vehicle traffic all move smoothly, which is the ultimate desired pattern.

Size

There exists a number of formulas to use when determining the necessary acreage for school construction. For example:

Elementary School

1-1/2 to 2 acres/100 students
5 acres plus 1 acre/100 students
10 acres plus 1 acre/500 students

These tend to indicate a parcel of land of seven acres for a larger building and appear to be a good guide.

Junior High School

2 acres/100 students
10 acres plus one acre/100 students
20 acres plus 10 acres for physical education and athletics

These formulas, plus the many others that exist, indicate approximately 25 acres is desirable.

High School

3 acres/100 students
20 acres plus 1 acre/100 students
A mystical figure of 50 acres is often used as a minimum site size for high school construction.

The total utilization of land is the primary consideration when land acquisition is being considered. The school architect should be involved in all conversations relative to land purchase and pre-planning of the building. When sufficient land is available, the restrictions on building design become less. Conversely, a minimum parcel of land often dictates a multi-level facility.

It is evident from the considerations mentioned that site selection is a most important consideration in school construction. The architect should be involved, his guidance requested, and his suggestions considered seriously. Although excitement exists during the time of planning and construction, it must be remembered that the facility will be used and maintained for a number of years. A good choice of site will help avoid problems in the future.

CHAPTER X GUIDELINES FOR SCHOOL BOND ISSUE WORKERS

When you make house calls or contacts . . .

Have a mental outline of what you are going to say:

1. Introduce yourself and explain your connection with the schools. ("Hello, I'm Mary Poppins from Disney Elementary School . . .")

2. Ask if they know about the bond election.

3. If the answer is yes, ask if there are any questions you can answer or any information you can relate that would better enable them to understand the issue.

4. If the answer is no, ask if you can have a few minutes to explain the issue.

5. Thank the individual for his time, and remind him that he can call either you or the school if a question should arise.

Some suggestions . . .

1. Don't ask a person how he will vote. (We are interested in his intentions, but this should become apparent during your conversation.) You can ask if he knows how his neighbors or friends feel about the bond issue.

2. Don't spend time with belligerent citizens who simply want to argue. (Thank them for answering the door and leave.)

3. If you are asked a question you cannot answer, promise to get an answer . . . AND DO IT by calling Donald Duck, your building principal.

4. Keep your presentation brief and to the point.

5. Know the answers to questions you may be asked. (A list of possible questions and answers can be issued, as found in another supplement.) (Remember, help is only a telephone call away.)

6. How many people will vote "no" in this election has been determined, and it is imperative to get all the "yes" support possible to outnumber the "no" vote.

Sample Handbook for School Bond Issue Workers

PERSON-TO-PERSON TALKS AND HOW TO DO IT

Effective action depends on you, those of you who talk to your neighbors, spread the good word, provide information on absentee balloting, and get out the YES vote. The success of your appeal depends on your simple, understandable, personalized presentation of the issues to the voters. It depends on the good impression all of our bond workers make on people.

It would be folly to outline for you HOW to talk to your neighbors. If you are convinced of your story, if you know it is right, understandable, and positive, and if at the same time you have respect for the considered opinions of others, you will do a good job--and that means you will amass a goodly number of YES votes.

READY TO GO

Your first job is with parents of children in your school. Since time, money, and energy are limited, these are the people to whom we must tell our story, and in a convincing, sympathetic manner.

Your best approach is to telephone or pay a call on these parents in their homes. These visits should be friendly, brief, but chatty. Talk about the school situation--discuss the school problems that can be solved by advance preparation and necessary funds.

1. Be cheerful and friendly. The person who answers the door is doing you a favor, not vice versa.

2. Before you approach a door, be sure you know the name of the family that lives there. It is always the best and friendliest approach if you can say, "Good Afternoon. You must be Mrs. Robert Jones."

3. Always identify yourself early in your conversation, "I'm your neighbor, Mrs. Raymond Smith, of the Citizens for Schools. I live on South Street."

4. Always state your purpose, "We are calling to register support for the school bond election to be held Monday, November 12."

5. Be prepared to answer questions. Attached are fact sheets prepared to help you.

6. Most of all, know where additional pertinent information can be obtained. "I can't answer that question right off hand," you might say, "but if you will call the School Board Offices they will be able to tell you." Or, better still: "I'm sorry, I can't answer that offhand, but I'll drop by (or call you) tomorrow and let you know." If you promise to call again, though, be sure to do it.

7. Don't worry about not knowing all the answers. Right now you know more than 90 percent of the voters. And what you don't know, you can find out and let your questioner know.

LEAVE READING MATTER

1. Leave literature so people have in print more of the story that you have highlighted in a few moments.

2. It does not pay to argue with people. Your mission is to arouse positive interest and give information. If they indicate that they don't agree with you, give them a nice big smile, leave them as quickly and gracefully as possible, and note their attitude on your listing. There are plenty of others, undecided voters, to worry about.

3. Don't get upset. When people are rude or non-committal, be friendly and respectful anyway. Leave literature for them to look over. In impossible situations, leave quickly and politely.

4. Don't ask people about their political convictions. If you ask a stranger how he voted, he will most likely tell you, "it's none of your business," and he will be right, too. That's why I suggest you ask if he knows how his neighbors or friends feel about the bond issue.

HOW TO FIND OUT WITHOUT ASKING

Be tactful in ascertaining a person's school financing views. You will usually know before your conversation with him is over. For instance:

You: "Good evening, I'm your neighbor, George Jones, of the Citizens for Schools Committee." (Pause)

Mr. Friendly: "Glad to know you. That's a fine organization." (You already know just about where you stand with him.)

--Or he might say--

Mr. Friendly: "Hmmm--What do you want?" (You'll know where you stand with him.)

You: "We're especially anxious to register support for the very important special school election on November 12." (Pause)

Mr. Friendly: "Yes, I've heard about it. Do you think it will pass?"

--Or--

Mr. Unfriendly: "I'm not for any more taxes. Already too high." --Or--

Says nothing, looks sour.

By now you should have a pretty good idea where either of your customers stand. Yet you keep talking, discussing the need for the school bond issue, what it will mean for the important years ahead, and something of just how everyone, especially children, will be benefited. But you interject some pauses to get the people's reactions. They are sure to react in some way and that is what you want.

A. Don't be discouraged if a few people refuse to talk to you. Remember that just one vote on a block or area might change the whole tide of the election.

B. As soon as you leave a house, mark all the information you came to get on your sheet. You may think at the time you will never forget Mrs. Lukewarm and her funny reaction. But you will--unless you mark it down. See: "What to Mark on Card" following suggested telephone approach.

Suggested Telephone Approach to LOCATE "YES" VOTERS:

SMILE:

Mr. (Mrs.) _____? (Wait for an answer.) My name is _____, and I'm a neighbor of yours over here on _____ Street. Are you aware that there will be a school bond election held on Monday, November 12 for a bonding issue for our school district? (Wait for an answer.)

If your party answers "no," explain the particulars of the issue, emphasizing tremendous growth that increased enrollments have brought. If they answer "yes," tell them it's nice to talk to people who keep abreast of community affairs, and ask them if they have any particular questions on the issue which you might answer for them. If asked--but only if you are asked--identify yourself as a member of Citizens for Schools. Don't Argue! If your party takes a real strong stand against the bond issue, thank them very politely for their time--and hang up! Above all, never come right out and ask your party how they intend to vote on the issue. Many will volunteer this information, one way or another, during the conversation. Your own good judgment will usually enable you to decide how your party stands. If, based on the conversation, you are unable to decide how they stand, it is wisest to consider them a "no" vote.

MAKE CERTAIN TO MARK EACH CARD FROM WHICH YOU MAKE YOUR CALL "YES" OR "NO" OR "?".

Suggested Telephone Approach to "GET OUT THE VOTE" on Election Day

SMILE!

Mr. (Mrs.) _____? (Wait for answer.) My name is _____, and I'm calling on behalf of the Citizens for Schools. As you know, there is

an important election Monday in which we are being asked to provide a bond issue to build a new school. Since every "YES" vote is vital in this election, we wondered if we might help insure your vote. Will you need transportation to the polls, baby-sitter services, or anything else in order to get to the polls on Monday?

If any such services are required, be sure to make a note of it and get the information to your Area Chairman.

WHAT TO MARK ON CARD

1. Names of all persons of voting age in the family with indication whether registered or not. (Be sure to check and see if absentee ballots are needed.)

2. Attitude (see below)

3. Special interest (for more literature or follow-up)

4. Is help needed to vote? (babysitting, ride, etc.)

5. Other notes of interest to your school chairman.

Don't deceive yourself about a person's attitude. Practical experience has shown it is best to use three marks when calling on voters:

\+ - 0

A plus sign means voter is favorable. A minus sign means voter is unfavorable, and a zero means you couldn't find out.

Don't mark a man as "0" when he actually was quite unfavorable. When in doubt, consider him against you. It will save you disappointment when the election returns are counted.

CHAPTER XI DEVELOPING A PROSPECTUS

School districts give careful attention to the selection of an architect and to the preparation of plans and specifications which will be used as the basis for construction bids. The architect or contractor cannot construct the building, however, unless someone provides the money to buy materials and labor. If an investment dealer is to bid intelligently on a bond issue and subsequently sell the credit of a school district, he must have detailed information relative to the school district and its financial condition presented in proper form. From long experience it can be shown that unless this information is made available, the school district cannot expect the lowest interest rate to which it is entitled.

In most cases, the essential information can be prepared in the form of a brochure and the brochure sent to as many interested individuals and organizations as possible when the bonds are advertised for sale. The information which investors, dealers, and rating agencies need may be divided into two general classifications:

1. general information pertaining to the school district and the community, and
2. financial information.

General Information

The general information provided to the buyer should include such items as: a brief history of the community and the school district, including the date of incorporation of any city or village; changes in school district boundaries through annexation, reorganization, or transfer of property; and any changes that have occurred in the name or legal designation of the district.

The location and area of the school district, including a brief description of the geographical advantages of the area and the transportation facilities available. A map of the district should be included showing counties and townships involved, cities, incorporated villages, trading centers, physical boundaries of the district, transportation arteries, and nearby large cities. It should be borne in mind that it is possible that many of the potential investors, including those residing in other states, may never have heard of the school district or are only slightly acquainted with it. It is especially important that a newly reorganized district or an older school district which has been an infrequent borrower in the past should provide this information in detail.

A brief description of the character of the community should be provided, including the amount and relative importance of the residential, industrial, commercial, and agricultural property. It will be helpful, in addition, to describe the type of residential development, the size and diversification of industry, the nature of the agricultural development and the type of commercial property, stating the number of banks and savings and loan associations with their deposits. The percentage of the annual taxes paid by industry should be given as compared to the total tax levy, and a list of approximately 10 large industrial or commercial tax payers (by valuation) should be given. If one or two large taxpayers account for an unusually large percentage of the annual tax levy, their holdings should be described in detail. Investors are interested in knowing, also, the percentage of homes which are owner-occupied and whether the residential development is primarily one of single-family homes or multi-family dwellings, and the relative importance of each.

The growth in population of the community should be stated. It is customary to show the 1940 and 1950 census figures and present estimated population. In addition, a brief outline of the type and income characteristics of the population should be given. This would include whether a considerable number of wage earners commute to other areas and the per capita income, educational attainments, etc., if available.

The amount of new construction within the last 10 years should be shown, broken down by building permits if possible, with a commentary on the type of new residential construction and the nature and importance of any new industrial properties. The names of any industrial plants currently under construction or planning to locate in the district should be included. If the community has extensive areas for future development, it is important that a short discussion of the zoning, building restrictions, and master plan, if any, be provided. This will provide investors with an idea of the possible future type of residential, industrial, and commercial development; and, in older communities, will indicate whether property values will be maintained.

A description of present municipal facilities should be provided including the adequacy of these facilities for present and future needs. This information should cover not only the adequacy of water and sewer facilities, but also whether the community has fire and police protection and whether the streets are paved, etc. It should include, also, whether substantial sums will be needed by the municipality in the future to provide these facilities if they are not provided at present.

The growth of the school district over the past several years, in terms of enrollment, should be stated. Current elementary and secondary membership, and the latest census figures (0-4 years and 5-19 years) should be included.

The purpose of the bond issue, including the type and size of school facilities to be constructed, should be provided. This should include, also, a discussion of the district's present facilities and

future needs, together with present and estimated future student enrollment figures.

The general information should include, also, the type of school district, the number of members of the board of education with their names and occupations, and the names of the local school administrators.

Preparing the Information

The format of the brochure and whether it is printed or duplicated is entirely the decision of the local board of education. The outline which follows is offered to assist the school district in collecting the necessary data and organizing it into an acceptable form, and should be considered only as a guide.

Much of the information needed to compile the brochure will be available from the records of the school district, the township or county, and from the municipalities included in the district. A considerable portion of the data should be provided by the school district's auditor and bond attorney.

Assistance in developing the brochure, and in all phases of the school building, planning, and financing program, may be obtained from the staff of the Department of Public Instruction and the Municipal Finance Commission or with the assistance of a financial consultant employed by a school district.

The financial information provided in the brochure should include such items as the following:

The current valuation of the district--assessed, state equalized--should be stated along with the estimated ratio of assessments to true values. To some investors the trend in valuations over a 10-year period is of interest, together with the corresponding tax rates and tax levies. In the case of recently-consolidated school districts, the related figures for the former independent districts should be shown.

The outstanding bonded debt of the school district, including the proposed issue of bonds, should be shown along with the outstanding bonded debt of any overlapping municipalities or special assessment districts. These figures should reflect the outstanding bonds only and should be of a recent date. Any self-liquidating debt, such as water and sewer debt, should be mentioned and a statement included as to whether these utilities are financially self supporting. In addition, all other debt should be shown so that the final result will be a complete picture of the school district debt and the overlapping debt of the district.

The tax collection record should be shown with the experience of the last five years. This should include a statement of all taxes collected through June 30 of each year and the amount collected to the present date, along with the total outstanding delinquent school taxes for all years as of the present date. The overlapping tax rates for all taxing units should be shown, also.

The record of the school district and overlapping municipalities in the payment of former and existing debt should be stated. If any default has occurred, an explanation should be given. In addition, the basis for the authorization of tax levies to meet debt obligations and the vote of the electors authorizing the bond issue should be stated.

A maturity schedule of the bonds of all the school district, including the current issue, should be shown. If either the district or any of its municipalities have appropriated fairly substantial sums in their current budgets for capital improvements, thereby eliminating or curtailing the need for borrowing, it would be worthwhile to report these figures.

The operating experiences (financial) of the school district should be shown with emphasis on receipts, disbursements, and cash balances for several previous years. The amount of state aid for current operation should be clearly stated and a copy of the last financial audit of the district should be included in the brochure.

CHAPTER XII SELLING THE BONDS

The sale of a bond issue by a local school district must be preceded by careful consideration of the many factors affecting the sale, including: the decision of the board of education on such matters as payment schedules, sale of the issue as a whole or in parts, and the date for accepting bids; legal restrictions and requirements as they pertain to such items as the conditions of sale, form of the bonds, interest rate, and investment of receipts; approval of the superintendent of public instruction in the case of qualified bonds; and the provision of necessary information to potential investors and bond rating agencies.

The bonding program of the school district should be planned with the bond market in mind and designed to improve the credit standing of the district as much as possible. The attainment of this goal will be facilitated by obtaining competent legal and financial counsel, paying bond principal and interest on time, and meeting all of the conditions of the bond contract without exception. The services of recognized bonding attorneys and the counsel of the Municipal Finance Commission and the Department of Public Instruction should be obtained at the very beginning of a new project.

The bond issue itself should be arranged whenever possible so that annual maturities will be in multiples of $5,000 and the schedule of maturities on new and existing issues will represent a reasonable plan for debt retirement. The feasibility of making part of the issue callable prior to maturity should be investigated, and the bonds should be dated as close to the sale date as possible.

The sale of the bond issue should be scheduled so that there will be a minimum of conflict from other districts selling bonds during the same period. This same caution should be observed with respect to issues offered by other overlapping governmental units. The bond sale should be advertised widely well in advance of the sale date to give potential investors sufficient time to study the issue and the issuing authority. Every effort should be made to deliver the bonds as soon after the sale as possible. If the bonds are to be printed by the school district, the printing contract should be awarded and the form of the bond given to the printer before the sale date.

It is imperative that detailed information on the school district and its financial conditions and needs be provided to potential investors and bond rating agencies well in advance of the date of sale of the bond issue to permit study of the issue, the projects to be financed, and the financial conditions of the issuing district. The

school district should prepare a complete brochure containing information pertinent to the bond issue and the district and this brochure should be sent to interested bond dealers and financial institutions at least two weeks prior to the date of the sale. Additional copies should be made available to the successful bidder. All data should be prepared carefully to assure accuracy, and requests for information from financial institutions, investors and bond rating agencies should be answered promptly and accurately.

Most school districtswill want to have their bonds rated by Moody's and Standard and Poor's investment services. Moody's rate school districts if they have $600,000 or more bonds outstanding taken individually, and Standard and Poor's if they have more than $1,000,000 outstanding.

Next, I pass on twenty bits of wisdom that I refer to as Truisms, for your consideration. Following the bright light of truth, you will find samples of telephone questions, person to person questions and answers, and one sample survey used in the Oxford, Michigan school bond election.

THE TWENTY TRUISMS

1. People feel that one vote doesn't mean too much because of the size of national elections; in a school election, one vote looms large.
2. News releases and newsletters aren't enough to win school bond elections.
3. A divided school board has a negative effect on school bond elections.
4. "Yes" voters get their information from school people.
5. The majority of voters are influenced by school publications or communications.
6. You must identify what the voters feel are the important issues.
7. The majority of citizens desire more information about their schools.
8. Some voters don't know that being a renter rather than a property owner still entitles them to vote in a school bond election.
9. Do not arouse the "no" voters - forget them.
10. The large majority of voters do not receive information about school bond elections.
11. Most non-voters haven't been in a school building during the year preceding a school bond election.

12. "Yes" voters have been in touch with school officials during the year before a school bond election.

13. A citizens advisory committee is usually involved in winning school bond elections.

14. Communication between municipal officials and school officials is important.

15. Voters will consider alternative suggestions to proposed bonding proposals; educators should communicate why those alternatives on the ballot were selected.

16. Election material should focus on kids, not costs, construction and curriculum.

17. The major source of school information for the general public is the local newspaper.

18. Parents of school-age children support the school bond issue more than any other group.

19. Participation in school functions is the most significant characteristic of school supporters.

20. You must find the "yes" voters, get them registered, and get them to the voting booth.

CHAPTER XIII BIDDING AND AWARDING OF CONTRACTS

The procedure of announcing specifications, selecting qualified bidders, preparing contract documents and receiving and awarding contracts is a most integral portion in the over-all scheme of designing and opening a new building. The over-all responsibility lies almost solely with the architect. The board has the right to expect the architect to have properly prepared all working and drawing specifications, thus eliminating any extensive changes or corrections during the period of construction.

The over-all bidding process may be divided into seven categories; namely, contract documents, drawings, specifications, completion time, insurance and bonds, bidding, and awarding of contracts.

The AIA has developed contract documents for construction and bidding purposes. These should be utilized for every building program. The uniformity of these documents helps to eliminate problems in the future that may otherwise result from misunderstanding. When it becomes necessary for the architect to alter the documents, he should include a title in the written specifications giving the heading "Supplementary Conditions." Here the changes should be written clearly to avoid question. Statements under this heading may relate to such things as climatic conditions, legal concerns, etc.

The standard forms of agreement used for bidding and construction are: AIA Documents A101, A107, A111, and A201.

The working drawings, as prepared by the architect, should provide all details necessary relative to the building as well as the site. The building plan should be drawn to scale and should be large enough to provide the bidding contractors accuracy in estimating. The site plans should indicate the location of the building on the site as well as indicating trees, property lines, existing structures, and utilities. Existing and proposed topographical conditions must be shown. Soil borings should be made, the location detailed and the laboratory tests included in the materials for the contractor's bidding purposes.

For clarity of understanding, the architect should prepare a site drawing, all elevations, mechanical, electrical, structural, and equipment drawing. When intricate details are involved, detailed drawing must be prepared.

A detailed document entitled "Specifications" must be prepared for the project. A standard procedure has been agreed to by the

professions involved and should be followed for clarity to all parties concerned. The specifications should be a written description of the proposed building and include all symbols, abbreviations, trade terms, conditions, approved materials, and allowances.

The question of time of construction is always a concern to all parties involved. It may be generally assumed the larger the project the greater the length of time to completion. The factor of time should be detailed in documents so all parties understand completion of construction and occupancy.

However, in preparation of contracts all parties must understand the factors which may delay the completion of a project. Floods, tornadoes, hurricanes, strikes, etc. should be indicated as delaying forces. In some cases it is advisable to insert a liquidated damage clause which covers all parties concerned.

The owner should require all contractors to provide sufficient insurance. This may best be determined by both legal and insurance counsel. The complexity of insurance coverage far exceeds the common-sense approach and should never be omitted from contract documents.

Security bonds should be requested by the owner and obtained by the contractor. Through the free enterprise system the contractor should be permitted to obtain the bonds from any reputable firm he may choose and only approval need be granted by the architect and owner.

Under normal circumstances, the architect should invite contractors to bid on a given project. His decision to select bidders should be based on the skill and integrity of the company and its ability to cope with the size of a particular project. Ordinarily, five to seven contractors may be invited to submit bids. This number provides adequate competition and insures the owner a fair and reasonable price.

The project manual should contain a bid form. This insures the same information that is provided for all bidders and the review of all bids may be completed with a minimal amount of review and effort. It further insures that each contractor understands the date, time, and location for submitting bids.

Alternates may be requested and bids prepared and submitted. This is advisable only when there is a concern to build within a limited appropriation or when there is a concern relative to a specific material or process. Requests for alternate bids should be kept to a minimum. There appears to be no specific time allowed for the preparation of bids. However, ample time provided will help the bidder in his preparation and assist in avoiding costly or embarrassing errors on both parties. Small projects usually can be bid in approximately two weeks. Larger projects should allow three to four weeks for the preparation of bids.

The final step of the bidding process is the awarding of contracts to the selected bidder. Under normal circumstances, this is the low bidder. The awarding usually takes place within ten days of the date

bids were submitted. This time allows for reviewing of bids, checking details, and the investigation of any bid the architect believes to be of concern.

If errors are made by a bidder, questions arise as a result of misunderstanding or minor adjustments must be made for specific reasons; an honest approach must be made and the parties involved should be informed accordingly.

The school board must remember they have an obligation to the community to erect the best facility possible for the least investment of dollars. At the same time, they should concern themselves with retaining the finest architect, contractor, and legal counsel possible to guarantee workmanship, design, and to avoid unnecessary court or legal costs.

CHAPTER XIV EQUIPMENT NEEDS

The topic of selecting, purchasing, and installing equipment is often hard to define. Generally, the cabinets, tables, cupboards, etc., that are to be built in and/or permanent are the responsibility of the architect. Those items that are movable--desks, chairs, file cabinets, waste baskets, etc., are the responsibility of the school district.

The decision regarding equipment must be determined early in the planning, as it becomes a portion of the contract between the school board and the architect.

Factors to be considered:

If the architect purchases equipment he has undoubtedly been involved in the process before, and therefore should be able to avoid some problems.

It would be easier for the architect to coordinate colors throughout the facility.

The architect ordinarily has all the information regarding equipment and can review selections with less difficulty.

His equipment recommendations and specifications will allow each item to function within the building (electricity, water, sewage, space).

The architect may not be familiar with specific items and their function, which may mean equipment is not ordered; or, the improper selection could be made. This is a service to the district and will be an additional cost in architectural fees.

If the school district purchases equipment:

The persons who will occupy the rooms may be better qualified to interpret the useage of a facility and may, therefore, be better able to specify the type of equipment.

A considerable amount of time and effort will be invested in the selection and recommendation of equipment by school personnel.

There must be coordination of color, space, storage, etc., to provide a favorable result.

The specifications, bidding, and receiving of equipment can become difficult.

Although there is a considerable amount of time invested, if the procedure is conducted carefully, there can result a substantial dollar savings.

Regardless of the direction taken, equipping a new facility is exciting and should be viewed as an opportunity and not a chore. Many hours will be invested and many dollars spent; but to know that the proper decisions will result in a good teaching/learning environment is rewarding enough for those involved in the educational process.

BIBLIOGRAPHY

UTCCISDM - UTOPIAN TEACHER-CENTERED CURRICULUM INSERVICE DESIGN MODEL

BOOKS

American Association of School Administrators, Christopher Janecks In Review, (AASA, Arlington, VA., 1973).

American Association of School Administrators, National Academy For School Executives, An Administrators Handbook of Educational Accountability, AASA, Arlington, VA., 1973).

American Association of University Women, Techniques and Strategies for Successful Action Programs, AAUW, Washington, D.C., 1972).

Amidon, E.J.; Hough, J.B., Interaction Analysis: Theory, Research and Application, (Addison-Wesley Publishing Company, Reading, Massachusetts, 1967).

Association for Supervision and Curriculum Development, A New Look at Progressive Education, (ASCD, Washington, D.C., 1972).

Association for Supervision and Curriculum Development, Education For An Open Society, (ASCD, Washington, D.C., 1974).

ASCD Council on Continuous Education, The School of the Future Now, (ASCD, Washington, D.C., 1972).

Arends, R.L., Masla, J.A. and Weber, W.A., Handbook for the Development of Instructional Modules in Competency Based Teacher Education Programs, (Center For The Study of Teaching, Syracuse, N.Y., January, 1971).

Beegle, C.W. and Brandt, R.M., Observational Methods in the Classroom, (ASCD, Washington, D.C., 1973).

Beggs, D.W. and Buffie, E.G., Nongraded Schools in Action, Bold New Adventure, (Indiana University Press, London, England, 1763).

Berman, L.M., New Priorities in the Curriculum, (Merrill Publishing Company, Columbus, Ohio, 1968).

Bloom, B.S., Taxonomy of Educational Objectives: Cognative Domain, (David McKay Company, Inc., New York, 1956).

Boughner, N.W., "Trichotomy School Organization Design Model", (Developed for the Nova Curriculum examination, Ypsilanti, Michigan, September 28, 1974).

Boughner, N.W., Ypsilanti Individualized Instructional Model/Math, Reading, (Ypsilanti Public Schools, Ypsilanti, Michigan 1971, 72, 73).

Brown, B.F., The Appropriate Placement School, (Parker Publishing Company, Inc., West Nyack, N.Y., 1965).

Bruner, J.S., The Process of Edcuation, (Harvard University Press, Cambridge, Mass, 1965).

Bruner, J.S., Toward a Theory of Instruction, (Belknap Press of 1966, Harvard University Press, Cambridge, Mass., 1966).

Bushnell, D.S. and Rappapont, D., Planned Change in Education, (Hartcourt Brace Javanowich, Inc., N.Y., 197).

Center For The Study Of Education, CSE Elementary School Evaluation Kit, (Allyn and Bacon, Inc., Boston, Mass., 1972).

Commission on the Reorganization of Secondary Education, "Cardinal Principles of Secondary Education", (Washington, D.C., U.S. Department of Interior, Bureau of Education, Bulletin 1918, #35, 1918).

Cooper, James M., "Differentiated Staffing: Some Questions and Answers", The National Principal, (Volume LI, #4, January 1972).

Cubberley, Elwood P., Public Education In The United States, (Boston: Houghton Mifflin Company, 1934).

Dave, R.H., "Psycho-Motor Domain", (Department of Curriculum and Education, National Institute of Education, New Delhi, India).

DeNovellis, R.L. and Lewis, A.J., Schools Become Accountable, APACT Approach, (ASCD, Washington, D.C., 1974).

Duffy, G.G. and Sherman, G.B., Systematic Reading Instruction, (Harper and Row Publishers, N.Y., 1972).

Dunn, R.; Dunn K., Practical Approaches to Individualizing Instruction, (Parker Publishing Co., West Nyack, New York, 1972).

Educational Policies Commission, Education For All Youth: A Further Look, (Washington, D.C., NEA, 1952).

Educational Policies Commission, The Purposes of Education in American Democracy, (Washington, D.C., NEA, 1938).

Evans, W., The Creative Teacher, (Bantam Books, N.Y., 1971).

Fantini, M.D., "The What, Why and Where of the Alternatives Movement", The National Elementary Principal, (April, 1973, Volume VII, Number 6).

Footlick, Terrold K., "Inequality in America, A Problem to Vast for the Schools to Overcome", Carnegie Quarterly, (20(4):1-7, Falls, 1972).

Gagne, Robert M., "Behavior Objectives? Yes", Educational Leadership, (29:397-400, 1972).

Gesell, A. and Ilg, F.L., Infant and Child in the Culture of Today, (Harper, 1943).

Getzel, J.W. and Jackson, P., Creativity and Intelligence: Explorations With Gifted Children, (Wiley, 1926).

Glasser, William M.D., Reality Therapy, (Harper and Row, Publishers, New York, 1965).

Glasser, Dr. W., Schools Without Failure, (Harper and Row, N.Y., 1969).

Glogau, L. and Fessel, M., The Nongraded Primary School, (Parker Publishing Co., Inc., West Nyack, N.Y., 1968).

Helmstadter, G.C., Research Concepts in Human Behavior, (Appleton-Century-Crofts, Educational Division, Meredith Corporation, N.Y., 1970).

Herndon, James, The Way It Spozed To Be, (New York, Simon and Schuster, Inc., 1965).

Hilgard, E.R., Theories of Learning, (Appleton-Century-Crofts, 1956).

Holt, John, The Underachieving School, (Pitman Publishing Corporation, N.Y., 1969).

Illich, Ivan, Deschooling Society, (New York, Harper and Row, Publishers, 1970).

Institute For Staff Development, Hilda Taba's Teaching Strategies Program, (Institute For Staff Development, Miami, Florida, 1972).

Irwin, M., Russell, W., The Community Is The Classroom, (Pendell Publishing Company, Midland, Michigan, 1971).

Jensen, Arthur R., "How Much Can We Boost I.Q. and Scholastic Achievement?", Harvard Educational Review, (39(1) 1-123; Winter 1969).

Jencks, Christopher, Inequality: A Reassessment of the Effect of Family and Schooling in America, (New York: Basic Book, Inc., 1972).

Kamil, C. and Derman, L., The Engelman Approach to Teaching Logical Thinking: Findings From the Administration of Some Piagetian Tasks, (Ypsilanti Public Schools, Ypsilanti, Michigan, 1969).

Kamil, C. and Radin, N., A Framework For Preschool Curriculum Based On Piaget's Theory, (Ypsilanti Public Schools, Ypsilanti, Michigan, 1968).

Keith, L.; Blake, P.; Tiedt, S., Contemporary Curriculum in the Elementary School, (Harper and Row Publishers, N.Y., 1968).

Kilder, R.J.; Barker, L.L.; Miles, T.M., Behavioral Objectives and Instruction, (Allyn and Bacon, Inc., Boston, Mass., 1970).

Kneller, George A., "Behavioral Objectives? No!", Educational Leadership, (29:397-400, 1972).

Kohl, H.R., The Open Classroom, (Vintage Books, Division of Random House, Inc., N.Y., 1969).

Kozol, Jonathan, Death at an Early Age, (Boston: Houghton Mifflin Company, 1967).

Krathwohl, D.; Bloom, B.S. and Masia, B., Taxonomy of Educational Objectives, Handbook II: Affective Domain, (New York, David McKay Co., 1964).

Lehmann, I.J. and Mehrens, W.A., Educational Research, Readings In Focus, (Holt, Rinehart and Winston, Inc., N.Y., 1971).

Leonard, Education and Ecstacy, (Dilacorte Press, N.Y., 1968).

Lewis, J., Appraising Teacher Performance, (Parker Publishing Company, Inc., West Nyack, N.Y., 1973).

Longstreet, Wilma S., Beyond Jencks: The Myth of Equal Schooling, (Association for Supervision and Curriculum Development, 1973).

Martin, W.E. and Stendler, C.B., Child Behavior and Development, (Hartcourt, Brace and World, 1959).

Mitchell, D.P. and Hawley, A., Leadership In Public Education Study, A Look At The Overlooked, (Academy For Educational Development, Inc., Washington, D.C., 1972).

Moffett, J., A Student-Centered Language Arts Curriculum, Grades 1-3: A Handbook For Teachers, (Houghton Mifflin Company, Boston, Mass., 1973).

Murray, E.M.; Wilhour, J.R., The Flexible Elementary School, (Parker Publishing Co. Inc., West Nyack, N.Y., 1971).

National Association of Elementary Principals, "News Release of NAESP Annual Convention," (Detroit, Michigan, April 14, 1973).

National Association of Secondary School Principals, Sharper Tools For Better Learning, (NASSP, Reston, VA, 1973).

Neagley, R.L. and Evans, N.D., Handbook For Effective Curriculum Development, (Prentice Hall, N.J., 1967).

Netzer, L.A.; Eye, G.G.; Graef, A.; Krey, R.D.; Overman, J.F., Interdisciplinary Foundations of Supervision, (Allyn and Bacon, Inc., Boston, Mass., 1970).

New York State Commission on the Quality, Cost, and Financing of Elementary and Secondary Education, The Fleischmann Report, (Viking Press, N.Y., 1973).

Nyquist, E.B. and Hawes, G.R., Open Education, Bantam Books, N.Y., 1972).

Overton, W.F., A New Look At Progressive Education, (ASCD, Washington, D.C., 1972).

Piaget, J. and Inhelder, B., The Early Growth of Logic in the Child, (Harper and Row, N.Y., 1964).

Piaget, J., The Language and Thought of the Child, (The World Publishing Company, Cleveland, 1965).

Piaget, J., Six Psychological Studies, (Random House, N.Y., 1967).

Ragan, W.B., Modern Elementary Curriculum, (The Dryden Press, Inc., N.Y., 1953).

Raser, J.R., Simulation and Society, (Allyn and Bacon, Inc., Boston, Mass., 1967).

Raths, J.; Paacella, J.R.; and Van Ness, J.S., Studying Teaching, (Prentice Hall, Inc., Englewood Cliffs, N.J., 1971).

Reich, C.A., The Greening of America, Penguin Books, Middlesex, England, 1972).

Research For Better Schools, Inc., R.B.S. Publications, (RBS, Philadelphia, PA, January 1974).

Rosenthal, R.; Jacobson, L., Pygmalion in the Classroom, (Holt, Rinehart and Winston, Inc., N.Y., 1968).

Rubin, L.J., Curriculum and Instruction Study Guide, (Nova University Press, Fort Lauderdale, Florida, 1972).

Scobey, M.M. and Fiorino, A.J., Differentiated Staffing, (ASCD, Washington, D.C., 1973).

Shaplin, J.T., and Olds, H.F., Team Teaching, (Harper and Row Publishers, Inc., N.Y., 1964).

Spitz, R.A., "The Role of Ecological Factors in Emotional Development in Infancy," Child Development, (September, 1949).

Stoltz, H.R., and Stoltz, L.M., Somatic Development of Adolescent Boys, (MacMillan, 1951).

Strom, R.D., Teachers and the Learning Process, (Prentice-Hall, Inc., Englewood Cliffs, New Jersey, 1971).

Taba, H., Curriculum Development Theory and Practice, (New York, Harcourt Brace and World, Inc., 1962).

Thomas, G.I., and Crescinberi, J., Individualizing Instruction in the Elementary School, (Random House, New York, 1967).

Thorndike, E.H. and Woodworth, R.S., "The Influence of Improvement in One Mental Function Upon the Efficiency of Other Functions," (Psychological Review, 8, 1901).

Travers, Robert M.W., An Introduction to Educational Research, (2nd Edition, New York, MacMillan, 1964).

Tuckman, B.W., Conducting Educational Research, (Harcourt Brace Jovanowich, Incl, N.Y., 1972).

Williams, Rosemary, "Reading In The Informal Classroom," Open Education, (Bantam Books, New York, 1972).

Ypsilanti Department of Instruction, "Elementary Social Studies Instructional Objectives Plan," (Ypsilanti Public Schools, Ypsilanti, Michigan, 1968).

JOURNALS

American Association of School Administrators, Assorted Publications - Information, (AASA Publications - Information Services Division, Arlington, VA).

Association for Supervision and Curriculum Development, "Educational Leadership," (ASCD, Washington, D.C.).

Department of Education and the Graduate School of Education of the University of Chicago, "The Elementary School Journal," (University of Chicago Press, Chicago, Illinois).

International Reading Association, Inc., "The Reading Teacher," (IRSA, Newark, Delaware).

Michigan Association of School Boards, "Michigan School Board Journal," (MASB, Midland, Michigan).

National Education Association, "Todays Education," (NEA, Washington, D.C.).

The National Association for Elementary School Principals, "Principal," (NAESP, Washington, D.C.).

PAMPHLETS

Architectural Services, Michigan Society of Architects, Document No. MSA 65-8.

"Bidding Procedures & Contract Awards," American Institute of Architects, Associated General Contractors of America, September, 1962.

"Code for Architectural Design Competitions," American Institute of Architects, 1972.

"Project Procedures," American Institute of Architects, September, 1963.

"Statement of the Architects Services," American Institute of Architects, June, 1972.

"You and Your Architect," American Institute of Architects, David L. Dibner, AIA, August, 1973.

"What Went Wrong," Council of Educational Facility Planners, 1968.

DOCUMENTS

American Institute of Architects, 1735 New York Avenue, N.W., Washington, DC 20006.

-Owner-Contractor Agreement Form Stipulated Sum, A-101.
-Short Form for Small Contracts Stipulated Sum, A-107.
-Owner-Contractor Agreement Form Cost Plus Fee, A-111.
-General Conditions of the Contract for Construction, A-201.
-Contractors Qualification Statement, A-305.
-Guide for Supplementary Conditions, A-511.
-Instructions to Bidders, A-701.
-Duties, Responsibilities, and Limitations of Authority of Full-Time Project Representative, B-352.